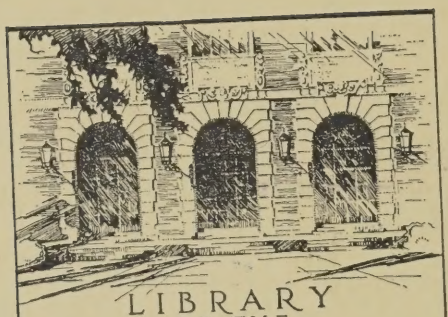

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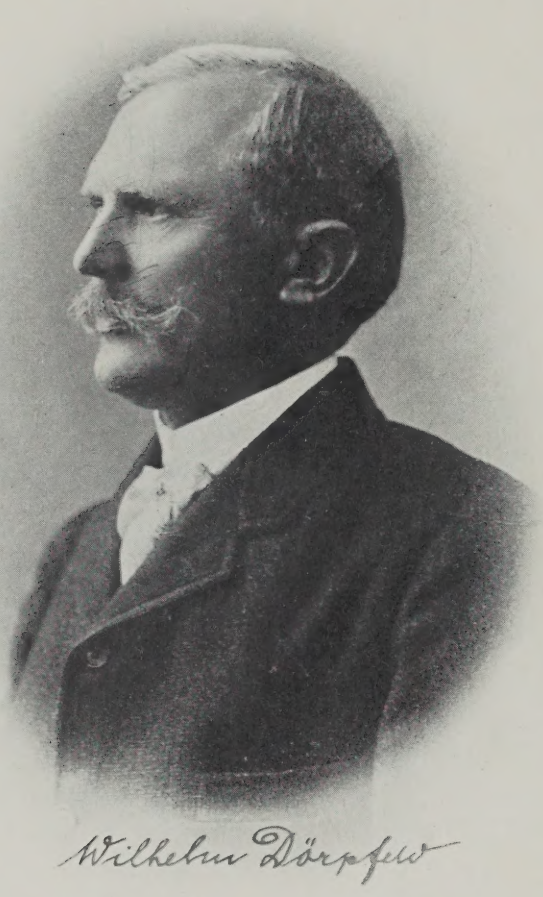

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Church of St. Benet Fink as seen after a fire at the Royal Exchange. From a drawing in the British Museum made by John Wykeham Archer in 1843. *P.* Lond. 1910

"The Times" printing house, Printing House Square, Blackfriars. From a drawing in the British Museum made by John Wykeham Archer in 1851. *P.* Lond. 1910

Burlington House.—The entrance court looking towards Piccadilly. From a drawing in the Soane collection made by an assistant of Sir John Soane *c.* 1811. *P.* Lond. 1910

—— The entrance court looking towards the house. From a drawing in the Soane collection made by an assistant of Sir John Soane *c.* 1811. *P.* Lond. 1910

—— Colonnade in the entrance court looking east. From a drawing in the Soane collection made by an assistant of Sir John Soane *c.* 1811. *P.* Lond. 1910

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JOURNAL

OF

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

Seventy-sixth Session—1910–1911.

THE OPENING ADDRESS. Delivered by the President, Mr. LEONARD STOKES, at the First General Meeting, Monday, 7th November 1910

ALTHOUGH I have for some time past been acting as your President, this is the first opportunity I have had—and I hasten to avail myself of it—to thank you all for the honour you have done me in electing me as your President. I need hardly say that I much appreciate the honour, though I could perhaps have wished for a somewhat less strenuous term of office, for although this is but the opening meeting of the Session, the Institute has already held a great Town Planning Conference. I know you will be glad to hear that this was an unqualified success, thanks to royal patronage, and largely to the great help received from the Royal Academy and the City Corporation. But, if I may say so, this Institute deserves some credit for having had the boldness to take the matter up and the ability to carry it through so successfully. I think, too, we have shown the world at large pretty thoroughly the substantial interest we take in the subject of Town Planning, and our capacity to deal with problems of this nature in a large and public-spirited manner.

Having had such a successful conference, however, it would be folly to let the matter drop, and it is proposed to hold shortly a much smaller gathering, composed entirely of experts, with a view to seeing if some definite proposals on the subject cannot be drafted, for the help of those either actively engaged in carrying out works of this nature, or in preparing schemes under the Act. Some conclusions of this sort would be most helpful, and as we have taken the lead we must not fall behind and let the subject get possibly into wrong hands.

Mr. Burns, who did so much for us as Hon. President, in one of his invigorating speeches during the Conference, advised architects to come down off their pedestals and mix with their fellow-creatures and their projects. What I think he probably meant, if I may say so, was that we architects should come out of our shells rather than off our pedestals; and this is undoubtedly sound advice, for do we not represent the art which of all others has done the most for mankind, both as regards providing things of great utility and objects of the greatest beauty? Has not history, too, been more clearly written in the architecture of past ages than in any other medium? If so, there is no particular reason—apart from our natural modesty—why we should hang down our heads when forced to admit that we are architects; we should rather glory in the fact, for have we not, for that very reason, much to be proud of, and but little to regret? Any one who has travelled knows that the extraordinarily beautiful and impressive tombs and temples

on the Upper Nile are not things to be ashamed of; and are they not works of architecture—even then the "mistress art"? And let any one who wants to scoff at us go to Greece, and then tell us what he thinks of what he has seen there. The sculpture is certainly wonderful, but I assert, without much fear of contradiction, that it is architecture which stands out pre-eminently in this great home of art.

In our own country, too, is not the case very much the same? What is most calculated to raise the mind, cultivate the taste, and generally inspire us with a love for the beautiful in almost every village we go into? Is it not the parish church? And if we choose a town and not a village, is it not again the cathedral which dominates the whole, asserting with solemn dignity that architecture has but few rivals and certainly no equal? I do not for one moment wish to imply that good architecture is only to be found in our churches and cathedrals. I only wish to make it clear that there, at any rate, we, in a most thrilling way, see proclaimed the greatness of our calling.

To take this great city alone, is it not architecture which makes it so interesting, though somewhat bewildering, and may I ask, without any disrespect to other arts, whether the intelligent stranger is most impressed by the works of the English painter, the English sculptor, or the English architect to be found within its walls? I daresay we might have had even more fine buildings had the national temperament been given rather more to display and less to money-making, but, at any rate, we have a unique collection in our City churches with St. Paul's Cathedral at its head. Wren, too, made a plan for rebuilding London after the Fire, a plan which every one now regrets was not carried out, and yet if the same opportunity were to come again to-morrow I daresay those in high places would make the same mistake their forefathers made, and in spite, too, of all they have recently heard on Town Planning. In fact, within the last few days the City Fathers have decided to build a new bridge across the Thames under the very shadow of St. Paul's, and yet in preparing their scheme architectural effect in dignified arrangement is the one matter that is left to take care of itself; and not only that, but when a deputation from this Institute waited upon the Bridge House Estates Committee, which had the matter in hand, and besought them to take advice on this particular point, it was disregarded and misunderstood, and the world has been told that it would cost a million more to carry out the scheme proposed by the deputation. Now I wish to repeat what I have already said in the public Press, that all the deputation did was to urge upon the Committee the importance of considering St. Paul's Cathedral, when selecting the position of the Bridge, and the arrangement of its approaches, and the necessity of obtaining the best possible advice on this point from the first. That was the *scheme* proposed by the deputation, and one would have thought that as business men the Committee could have seen the wisdom of getting the very best possible advice before embarking on any project costing nearly two millions of money. There are many ways of doing most things, and probably more than one of laying out this Bridge, and what we fear is that the Corporation has not yet hit upon the best way. I see in the Press that designs for the Bridge are to be advertised for; but what should be done is to advertise for a scheme rather than a Bridge, if any advertising is necessary; but the right thing to do, I maintain, is for the Corporation to appoint the best architect it can find—for there are architects and architects, I fear, just as there are golfers and golfers—to work with the Engineer and the Surveyor they have already appointed, and for these gentlemen to reconsider the lay-out of the Bridge and its approaches, and have proper models made, so that this magnificent opportunity of making a really great national improvement may not be thrown away.

A glance at the plan approved by the Corporation will explain my meaning, for on this the position of St. Paul's Cathedral is not even indicated. If something of this sort is not done then the only course I can see is for us to raise as much public interest and influence as we possibly can, and oppose the Bill in Parliament, when the Corporation seeks the necessary powers to

erect the Bridge. Your Council has, however, decided to petition the Corporation in the following terms :—

To the Right Hon. the Lord Mayor, Aldermen, and Commons of the City of London in Common Council assembled—

The Humble Petition of the President and Council of the Royal Institute of British Architects Sheweth

That your Petitioners have had before them the Report of the Bridge House Estates Committee containing a scheme for the New Road and Bridge in regard to which they understand that Parliamentary sanction is about to be applied for.

Your Petitioners venture to urge the advisability of obtaining architectural advice upon the whole proposal, which involves artistic considerations of great importance.

Your Petitioners, with the support of the many distinguished persons whose names are attached to this petition, therefore humbly pray that you will give careful consideration to this aspect of so important a public undertaking.

I hope that even yet we may be successful.

Of course, if it is decided to ignore architecture altogether in the Bridge and adopt a design entirely of an engineering character, and another Benjamin Baker can be found, I can imagine a steel bridge of a single span which might look very fine; but even then the approaches must be properly arranged and designed by an architectural mind, as I take it that these cannot very well be of steel in any case.

While on the subject of bridges and their approaches it may be interesting to inquire into the designing of some of our best examples, viz. Waterloo and London Bridges, and my friend, Mr. A. E. Richardson, has kindly supplied me with the following information which he has collected for a book he is writing entitled *Monumental Architecture in Great Britain*. Waterloo Bridge, which was at first called the Strand Bridge, was designed by Ralph Dodd, an engineer, who had, however, *made a particular study of architecture*, and an Act of Parliament was obtained in 1809 for its erection on Dodd's design. Before the bridge was begun, however, Dodd was deposed, and John Rennie, another engineer, who does not appear to have had any particular knowledge of the subject—having begun life as a millwright—was employed to carry out the work, and the following extract from the *Gentleman's Magazine*, page 482, vol. 87, 1817, the year the bridge was finished, is, I think, conclusive :—

"Mr. Ralph Dodd requests us for the sake of justice to contradict an assertion which has got abroad, viz. that Mr. Rennie was the architect of the Strand or Waterloo Bridge, which he says 'is not the fact, it being an honour that I cannot allow to be taken from the family. The plan and design of that bridge were approved by the proprietors, and its measurements inserted in the Act of Parliament for building it (of course no other could be admitted) long before Mr. Rennie had anything to do with it. These plans are now accessible for the inspection of any gentleman who may wish to see if they have been acted upon, and in which it is presumed the architectural taste of this country has not been disgraced.'"

The cost of the Bridge was £565,000, the approaches £112,000, land and buildings £373,000; total £1,050,000; and it took six years to build; we may take it that the designer of the Bridge was Ralph Dodd, an engineer who had made a special study of architecture, and was naturally and very justly proud of its architectural effect.

It is suggested that Dodd in designing Waterloo Bridge may have gone to old Blackfriars Bridge for his *motif*. This bridge was the work of Robert Mylne, and was designed by him on his return from Rome, where he had been *studying architecture*, and was somewhat similar in design to the present Waterloo Bridge, as may be seen from the old drawings of the bridge hanging on the walls.

We now turn to London Bridge, the design for which was undoubtedly produced by John Rennie—the work being carried out by his son, Sir John Rennie. Having been connected with the erection of a fine work like Waterloo Bridge, it seems only natural that Rennie should have made a good design for London Bridge, and we are grateful to him for having done so; but it is interesting to note that the younger Rennie was Professor Cockerell's brother-in-law, with whom I believe he travelled a good deal, and that Cockerell must in all human probability have had some influence on Rennie when he was designing the details of the bridge. We know, at any rate, that Professor Cockerell made designs for the buildings connected with the approaches to the bridge, and that these were considered by the Committee but rejected, and the work was eventually put in the hands of Sir Robert Smirke. Rennie regretted very bitterly the non-adoption of Cockerell's designs, and could never bring himself to admire those erected by his other friend Smirke.

I think I have now said enough to show pretty clearly that the designers of our best bridges, even if they were not architects by name, were so by training, at any rate; and good architecture, whatever may be said about it, cannot be produced except by a trained mind.

But I have wandered somewhat from my point, which is that architecture is an all-important matter. I fancy, however, some people may say, "That it is all very true of the past, but architecture is not what it used to be." Well, I deny that. The best architecture in England of recent years is just as good on the whole as it ever was, though conditions are much more difficult and great opportunities not so often to be met with. If evidence is wanted to prove this statement look round the walls to-night, and you will see representative work of some of our Royal Gold Medallists—as far as we have been able to collect and exhibit them—since the medal was first presented in 1848 to Professor Cockerell. The names of such great men as Cockerell, Barry, Donaldson, Tite, Owen Jones, Scott, Street, Butterfield, and Bodley, not to mention living men, are enough alone to prove my case without looking at the work here shown—though I advise you nevertheless carefully to examine it; and also please remember that there is at least one other name equally great which for some reason or another—but I think not through any real fault of this Institute—does not appear in the list of recipients of this royal recognition of our calling.

It may be said that these gentlemen are exceptions. Of course they are to some extent, but there are many others who approach very nearly to them in the quality of their work and in their power of design. And I think to-day we have even more good men than ever, particularly amongst the younger generation, their training now being so much more systematic than it used to be; and we hope to make it even more so in the future, as the various Architectural Schools about the country are all doing such good work. There is, however, a general feeling amongst thinking men, I fancy, that we do not take our students far enough along the road to proficiency. They are very well grounded in many cases, but their studies, under direction, are cut too short, and they are left to shift for themselves just when direction would be most useful and a helping hand of the greatest assistance. If I may say so, it seems to me that the Royal Academy is the right body to undertake this higher educational work, at any rate in London; and if it would establish a school somewhat on the model of the École des Beaux-Arts in Paris, then I am sure we as a body would be most grateful. There are plenty of schools where the smaller architectural subjects are taught, but larger projects are not often dealt with, and the Academy might well take them up; and if Town Planning is to become a living thing amongst us the design and arrangement on dignified lines of streets, bridges, squares, and other open spaces must be systematically taught to our students.

A large sum of money has recently been left by the late Mr. Henry Jarvis to this Institute, to be spent either on new premises or on studentships and prizes, so that, fortunately, we are just now in a position to offer encouragement to this kind of study should we deem it desirable, as no doubt we shall.

As this is the first meeting held under what is now practically our own roof since our foundation in 1834, I think we may congratulate ourselves on the event and our Hon. Secretary and architect upon the success of his efforts in adapting these galleries to our use. Those of us who knew them as they used to be can hardly recognise this fine suite of rooms we are now in, which will give us the space to develop in that we have badly wanted for years past. Whilst on this subject I should like to give you a rough outline of our present position with regard to these premises. We are, then, as I have said, now practically the freeholders of the whole of 9 Conduit Street, including these galleries, as we hold them on a perpetual lease from the Corporation of London, and we have not only turned a short lease of 9 Conduit Street into a perpetual one and added something like 112 per cent. to our accommodation by acquiring and adapting these galleries, but have only added 88 per cent. to our old expenditure in so doing. We may be shoemakers' children, but in this case I think we have managed to get pretty well shod.

It is proposed to hold exhibitions, &c., from time to time in these galleries, and I think we shall find them of use in many ways; but if at times we have no particular need for them, there must be numbers of societies who would gladly rent them from us for exhibitions or meetings. There is a separate entrance from Maddox Street, and the letting-off of two of the galleries under the name of the Maddox Street Galleries would be an easy matter. This could be done without interfering in any way with the ordinary work of the Institute, and two or three hundred a year, say, might thus be added easily to our income.

I now want to remind you of another subject that has been actively engaging the attention of most of us for years, and which resulted last year in our acquiring another Supplemental Charter and new By-laws. Under these a new class of members has been established in this Institute, for it was felt that we should be the unmistakably representative body in the profession. These new members are called Licentiates, and we hope to enrol practically all *bona fide* practising architects who are not already members in this class. You are aware that there are a large number of men about the country who, for one reason or another, never presented themselves for our examinations or became either Associates or Fellows. Many of them are now in active practice, and we can hardly ask them to subject themselves to examination; the only thing that we ask of them, therefore, is that they shall be thirty years of age, have either been in practice for five years, or shall have been engaged in the study or practice of architecture for ten years. This class is to be a temporary one, open for twelve months only, and I am glad to say many hundreds have already joined, though only six months out of the twelve have yet elapsed. When once within our ranks Licentiates can either remain in that class or can pass on to the Fellowship, when qualified, and after passing such examinations as may be established. Such examinations may possibly largely take the form of an inquiry into the quality of the candidate's executed work, or may even take the form of the special examination for the Associateship, the Board of Education having power to exempt a candidate from such subjects as his executed works may show him to be proficient in.

I do not want to weary you with this subject, but I do think it most desirable that as many members as possible should join our ranks, for, firstly, I think we are well worth joining; and, secondly, when we have a large roll of members we shall be much more influential, and can then apply to Parliament for such form of recognition as we think most desirable. I cannot say that I am a great believer in Acts of Parliament, but others perhaps are, and when we are a united profession we shall at any rate be in a better position to decide what it is we really do want, if anything, beyond being qualified members of the one Society which is recognised by all as truly representing architecture in this country.

Whilst on the subject of Acts of Parliament I should like to call your attention to the new Copyright Bill which it is proposed to introduce this autumn, largely, I believe, to meet the wishes of painters and sculptors, who, I think, are reasonably dealt with in the Bill; and so are

we in the main, but there are details that will want adjusting if I understand the Bill aright, for any little right we may now have in our designs is to be taken from us ruthlessly and vested in the building owner. If any one copies a piece of sculpture the copy can, under the Bill, be destroyed by the original designer. But an architect having once designed a building has no further real right in his design whatever. This hardly sounds like common justice, but it may be. Again, if I design a chimney-piece and put it in the best bedroom of a house for A., I can never use that chimney-piece for B. without obtaining A.'s permission. This seems a little hard, as we all know there are numbers of small fittings, like door furniture, bell pushes, and grates, that, having once designed, an architect likes to feel he can use again and again if he so desires. The new Bill, however, will stop all this, unless we can get it altered, or hit upon some way of "contracting out" of it. At present we are only liable to be copied by those who have a sneaking admiration for us. In future, if the Bill becomes law, we shall not be allowed to put up even colourable imitations of our own work. This will come very hard on some of us, I fear!

You will be glad to hear—if you have not already heard—that the Lord Mayor, when asked to form a Committee to organise a memorial for London to the memory of Edward VII., at once wrote to me as your President, and asked me to serve on that Committee, and, feeling that you would like to be represented, I accepted the invitation on your behalf, and since then my name has been added to the Executive Committee. I feel, of course, the responsibility of the position, but will do my best to represent architecture in response to the compliment paid to this Institute. The problem of selecting a suitable form for the memorial is not an easy one to solve, but, besides being architects, we were his loyal and loving subjects, and I know you would all wish a suitable memorial to be erected in London to our late King and Patron's memory.

In conclusion I will only add that we architects are obviously somewhat powerless, unless those who have the control of public and other works will come to us to help them. At present the fashion is all for buying old masters and preserving old buildings, very little encouragement being given to those who have to provide old masterpieces for future generations. Large Government and Municipal Departments do not sound like places where art is likely to thrive or flourish, and yet most of our principal public works now first see the light in these uncongenial hotbeds of sealing wax and red tape. And when our governing bodies do not encourage and appreciate the beautiful how can we expect the public to understand that it is possible to transform even commonplace projects into works of real grace and beauty? Ornament and elaboration are quite unnecessary, but thought, study, and skill are indispensable. With these, however, the most ordinary and everyday undertakings have been in the past, and can again be in the future, transformed by proper architectural treatment into things of real beauty, a pleasure to see, a pleasure to live with, and a lasting benefit not only to us but also to our children and their children's children.

VOTE OF THANKS.

THE RIGHT HON. SIR GEORGE REID, in the course of a very humorous speech proposing a vote of thanks to the President for his Address, said: There is one good thing about this Royal Institute of British Architects: it not only has a great name, but it has got a grievance—about that bridge, for instance. It is a great thing to have a grievance. I do not think any real Englishman is worth anything unless he has a grievance, and for once in a way I think the grievance a sound one. I speak of course with the greatest possible diffidence on questions affecting architecture, but one cannot go through London, as I have done during the past five or six months, without wondering how it is that the City got built at all in the way it is built. (Laughter.) There is not much trace of a plan about the City of London; there are some great things about it, but unfortunately they are several hundred years old. I know of course that things move slowly here. For instance, I am told to-night that it is about seventy-three years since you endeavoured to get a little house of your own, and you are glorying over the fact that you have got into one at this speedy rate. (Laughter.) I am glad that the Institute is becoming progressive. Australia in 1837 was almost a silent virgin space; it had been slumbering for ages without a glimmer of civilisation. Yet since 1837 Australia has become one of the most remarkable, one of the most progressive countries under the sun. A great thing about the President's Address is the evidence it gives that the men who have succeeded in this glorious profession are thinking for those who have not had an opportunity of developing their tastes and their abilities. It is a great thing that project of the President's to bring opportunities of showing talent in your profession more and more within reach of the masses. Out in Australia we have a number of splendid architects. The climate there is very different from yours, and we have therefore a very different architecture; but our architects have had a grand inheritance in the genius of those who went before them. I do not know much about architecture, but I think I am safe in saying that St. Paul's, Westminster Abbey, and the Houses of Parliament are sufficient in themselves to make the fame of a great city. Why should not our great men of to-day have the chance of building edifices like those? (Hear, hear.) We in Australia are beginning where London began hundreds of years ago, and are about to establish a capital there. That capital will be in years to come the capital of a great nation, for Australia is larger than the United States of America; and I hope it will have the advantage of a wise system of planning (hear, hear), and that the very best plan in the world will be adopted, whether it comes from our own Australians, or from you, or even from Germany. (Langhter.) There is one good thing about architects, their architectural powers may lie fallow for two or three hundred years, but they come out again. (Hear, hear.) I think there is a gentleman in this room who is a descendant of Inigo Jones. Now for three hundred years none of his descendants have ever shown any genius for architecture, but it has come out now—(laughter)—and come out in real earnest. There is an old master come to life again in Mr. Inigo Triggs. (Hear, hear, and laughter.) Now I want to ask you this: have you yet been able, you great architects of this Royal Institute of British Architects, to form an estimate for an unfortunate man's building that was as moderate in its total as the bill for extras sent in afterwards? (Laughter.) In Australia a friend of mine, having rather a nice house, in an evil moment thought he would improve on it, and called in an architect. No, I think he dispensed with the architect, but called in a builder—(oh! and laughter)—that is where he made the mistake. (Hear, hear.) I thought you would agree with that! He found the extras were about twice as much as the original contract. (Laughter.) I do hope you will make it a rule that if any member of this Institute sends in an estimate for work, and the extras amount to more than 75 per cent.—(laughter)—above the original estimate, you will put him back into that preliminary class you reserve specially for the youngsters.

There is another thing that I think is a disgrace to somebody in London—whether it is the architect or not I do not know. When will the genius of the architect discover that he could save an enormous amount of valuable space in a house if he would not waste it upon the provision of those clumsy staircases, and give just a little space for a nice lift? Do you not think there would be a lot of common sense in it?

Touching the question of town planning, is it not almost as important, outside London where you have the space, to have as good a system of garden planning as of architectural planning? (Hear, hear.) I should like very much to see the garden planning made a more prominent feature of architectural work than it seems to be. There are some glorious old places about England, but I do not see, in some of the smaller houses with smaller spaces, the taste which I should like to see associated with even the smallest gardens throughout the length and breadth of the United Kingdom.

It has been a great privilege to me to come into this friendly association with members of this distinguished Institute. I have felt it particularly a great privilege to come, I hope, within the sphere

of friendly feelings of the President of this Institute. Layman as I am, I admire the manliness, the good sense, and broad spirit of this annual Address ; and I feel perfectly justified in moving this vote of thanks in the most hearty way to your distinguished President. I also feel sure that, great as your past has been, your future will be even more distinguished. (Loud applause.)

The Right Hon. The EARL OF PLYMOUTH [*H.A.*] : I have but just been asked to second the vote of thanks which has been proposed in so humorous and so eloquent a way by Sir George Reid, and seeing that you have just paid me the great compliment of nominating me amongst others for the Honorary Fellowship of this Institute, I feel it quite impossible to refuse, although it is a somewhat difficult task to perform at a moment's notice. May I say with regard to the extremely interesting Address that the President has just delivered, that although many hard things may be said of architecture in London and in this country generally, I honestly believe that our failures are due mainly to the inability of those who pay for the building to appreciate what is really good in architecture. To this Institute, which rightly represents what is best in architecture, we look for a lead in construction and planning, and in all that makes for beauty in architecture, and I believe that English people in general and Londoners in particular are beginning at last to recognise that fact. When I had the privilege of presiding at the Office of Works, it often occurred to me that it would be a great thing if public bodies in London could turn to some permanent committee—upon which the Royal Institute of British Architects would obviously be prominently represented—to pass the designs in street architecture, and that they would put themselves a little more into the hands of those who have made a life study of architecture, rather than hurriedly and often blindly to plunge into some big architectural scheme without being adequately equipped for the work. (Hear, hear.) I believe that there is a tendency in this direction, but I am firmly convinced that the position of the Royal Institute of British Architects, and the place which it holds in this country, is being strengthened year by year, and that we are acknowledging that the Institute does truly represent the best knowledge and feeling in this great branch of art. (Applause.)

Mr. WALTER MILLARD [*A.*]: May I, as an old friend of our President, whose able Address we have just listened to, say a word about the man himself? If there is anybody present here who can claim a much longer acquaintance with him than I can I will give way at once. I remember well over thirty years ago dropping one evening into the very next room to this, where the Architectural Association used to hold its Class of Design. The President of the Class was there with a little cluster of students round the table, and among these I noticed a fair, flaxen-haired youth, in a brown overcoat, who seemed to be freely offering his criticisms on the other men's designs as they came up in turn. He sufficiently attracted my attention to make me ask his name. The reply I got was "Oh, that is Leonard Stokes." I had not heard the name before, but the tone of my informant gave me the impression that I ought to have known it, and that, in fact, I might consider myself rather an outsider for not knowing it. A very few days afterwards that name cropped up again. I was in Street's office, in an upper room, and word was brought up to me that Leonard Stokes had come in to see "the Governor." I fear I was wicked enough to ask, "Who's he, and what does he want?" However, I was told very soon that he had seen "the Governor" and that Leonard Stokes was going to Dublin as clerk of the works for Christchurch Cathedral. So I looked down my nose when I realised that this youth had been selected, not from the architect's office, but from the quantity surveyor's, as the fittest man to send out for such a position. Time went on, and Christchurch Cathedral, Dublin, was finished ; and one day Mr. Street was giving me some plans for the office to get on with, when he suddenly said, "By the way, next Monday Mr. Leonard Stokes will come into the office. He has done his work at Dublin most admirably." Then he looked at me rather significantly I fancied, and added, "I think you will find he has got a head on his shoulders." (Hear, hear.) Well! chief draughtsmen have their feelings—they are not all angels, they do like to have things broken to them gently about new-comers ; but I need not pursue that subject. Leonard Stokes came, and he and I before very long found ourselves out of the office travelling together, working together, I may say playing together—living together for months at a time, and experiencing all the charming vicissitudes incidental to good friendship. I hope, ladies and gentlemen, I have made out my claim to speak about him. I need not tell you how he went on and won the Pugin Studentship, at an age that made some people question whether he was really as young as he represented himself to be—considering the excellence of the work he was submitting. Most of you remember his Presidency of the Association. I need not enlarge more about him. You all know of Mr. Street as an architect: I am not going to ask you what you think of him as an architect, I will only ask you what you think of him as a prophet, in predicting of the coming President that he would prove to be a man with a head on his shoulders? (Hear, hear.)

The HONORARY SECRETARY having put the motion from the Chair, the vote of thanks was carried by acclamation and briefly responded to.

REVIEWS.

THE NEW SORBONNE.*

Monographie de la Nouvelle Sorbonne. H. P. Nénot, Membre de l'Institut. Introduction par O. Gréard, Membre de l'Académie Française. Fo. Imprimerie Nationale, 1903.

From the outer title page bearing the legend *Monographie de la Nouvelle Sorbonne*, in a clear type seldom seen in any books save those made at the Imprimerie Nationale, and the inscription by the donor: "à mes confrères du Royal Institute of British Architects, Hommage Confraternel, H. P. Nénot," in the nervous handwriting of the distinguished architect whose conceptions are recorded in the fifty plates of views, plans, and details, to the fiftieth plate and last page—showing a bird's-eye view, taken, evidently, from the roof of the library of the École de Droit at the corner of the Rue Cujas and the Rue St. Jacques—this is a remarkably fine piece of bookmaking.

From the Anglo-Saxon standpoint it is all the more remarkable that it is a Government publication made only to be distributed among certain institutions and individuals to whom this record of a very important architectural work or well-studied plan would prove valuable. Such a volume could be produced in this country only by a philanthropist; as a monograph of this kind and extent could only find its way into such private libraries as those which admit a subject of unique interest and very occasional use, and into public collections of which the number under control of intelligences broad enough to recognise the general rather than specific value of such a production is very limited.

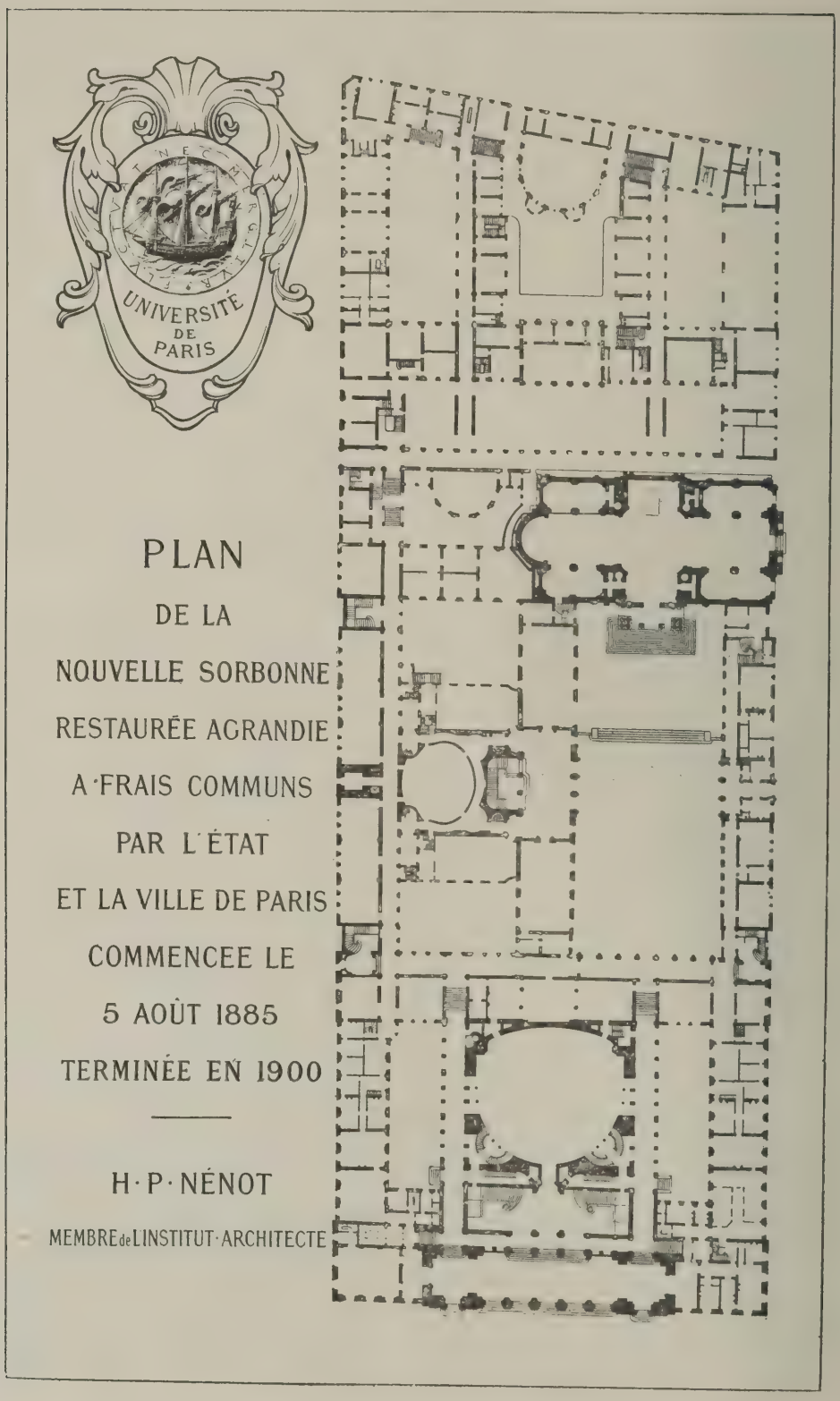
The Sorbonne, as we are assured by Monsieur Gréard, Membre de l'Académie Française, who has written the introduction to the monograph, was founded in 1253 by Robert de Sorbonne, chaplain to Louis IX., upon a part of the present site, as a hostel for poor students of theology and their teachers. The buildings erected at that time were, if we may depend upon the old documents in *Les Archives* and the restoration of the plan in this book, two or three small buildings of one or two rooms each built around that which is to-day the principal court. A small chapel was added in 1326, which divided the court in halves. During the following three hundred years the School of Theology at Paris gained great repute as a seat of learning; and in 1627 Cardinal Richelieu began its rebuilding, which, under the architect Lemercier, occupied twenty-one years. The buildings erected by Richelieu consisted of the existing chapel—one of the most charming churches of Paris—and a group of buildings surrounding the main court. Mrs. Pennell says that "the virtue of Paris is . . . its faculty for remaining true to tradition on the traditional spot," and instances that "the Romans would find the metropolitan church where they had their temple of Jupiter; St. Louis would find justice administered where he held his open court." "St. Louis" would also find in the north-east corner of the main court of the Sorbonne a wing of the present building the walls of which follow the lines of his ancient foundations. Richelieu would find, naturally, much more. Practically everything he built is there, but he would find it changed. Walls which were not quite straight on the plans of his day have been made so; one end of the court which was formerly askew now stands at right angles with the sides; an arcade has been added which runs round one side and one end of the court; the old doorways, which were narrow and small, are widened, their proportions not being improved thereby; and the lines of the roofs have been sufficiently altered to improve the composition without materially affecting the old appearance. Yet this is not the result of mere restoration, but only of "remaining true to the tradition on the traditional spot," although the plan of the present group of buildings, erected between the years 1884 and 1901, which appears with those of the periods of Louis IX. and Richelieu on Plate VII. of the *Monographie* bears the notice "de la Nouvelle Sorbonne Restaurée Agrandie à Frais Communs par l'État et la Ville de Paris."

The new Sorbonne includes as well as the College of Theology those of Science and Letters, and it is in the spirit of the times that the two latter faculties should make the greatest demands for space in the new buildings.

Popularly the Sorbonne is known principally as the centre of the University of Paris, and secondly on account of its great hemicycle, which contains one of, if not quite *the* greatest of Puvis de Chavannes' decorative paintings. To architects generally it is a familiar instance of noble and modern design—the rarest of designs thinkable—a university building conceived as architecture distinguished from archæology! To architects in France particularly it is known for what is always the thing dearest and nearest to their hearts—a wonderful plan, a magnificent solution of perhaps the most complex problem in planning which has been presented in modern times.

The introduction by Monsieur Gréard informs us that, besides the *dépendances* of the Academy and the offices of the colleges, the buildings devoted to direct instruction comprise twenty-two amphitheatres, including the great one which seats three thousand people; five libraries, two museums of art, sixteen examination halls, twenty-two study rooms or *salles des conférences*, thirty-seven rooms for the use of professors and tutors, two hundred and forty laboratories furnished with apparatus and equipment of every desirable sort. One has to think of all this appearing in some "Conditions of Com-

* The illustrations which accompany this notice are reproduced from M. Nénot's book to a diminished scale.


UNIVERSITÉ
DE
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NOUVELLE SORBONNE
RESTAURÉE AGRANDIE
A FRAIS COMMUNS
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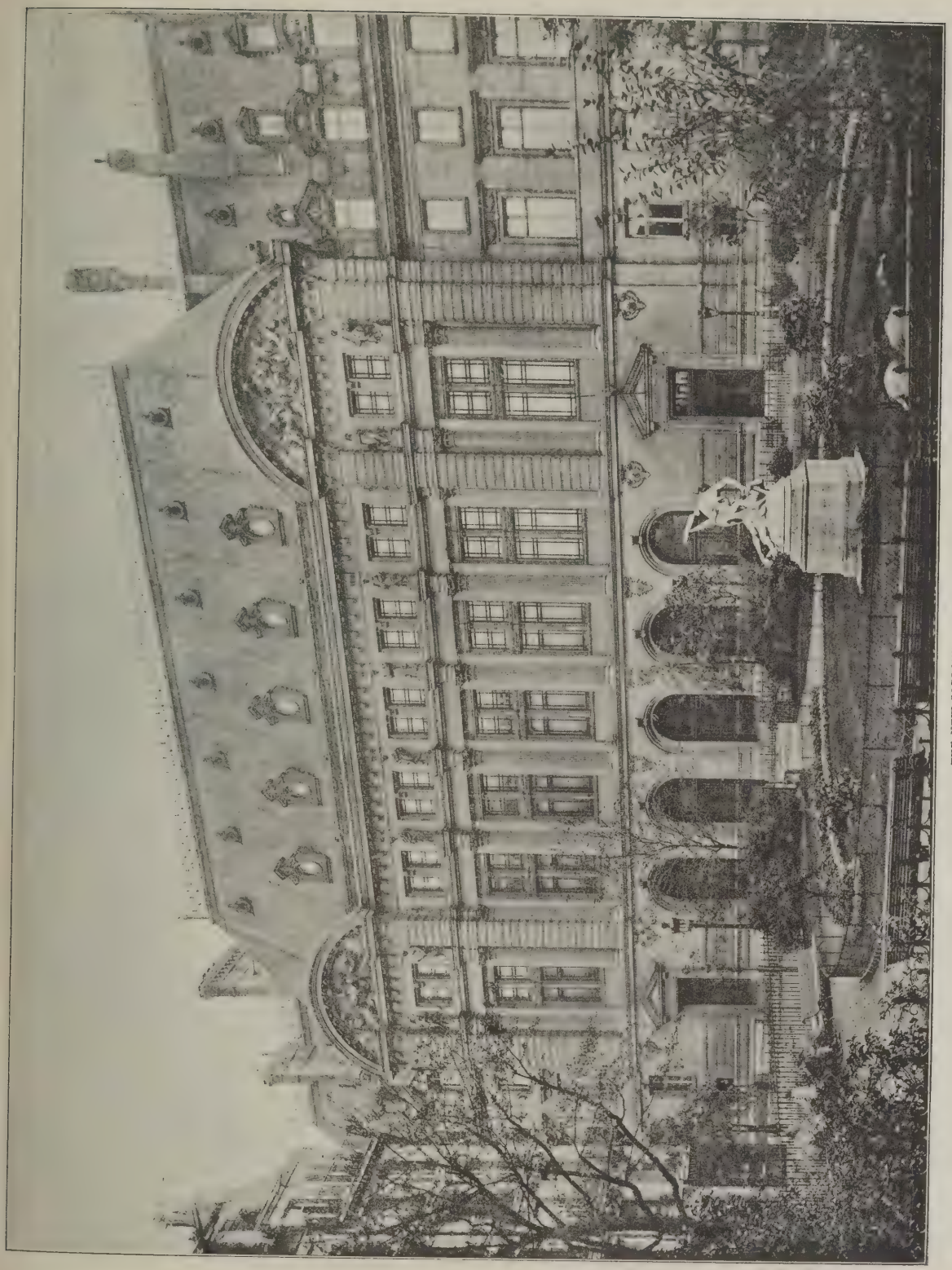
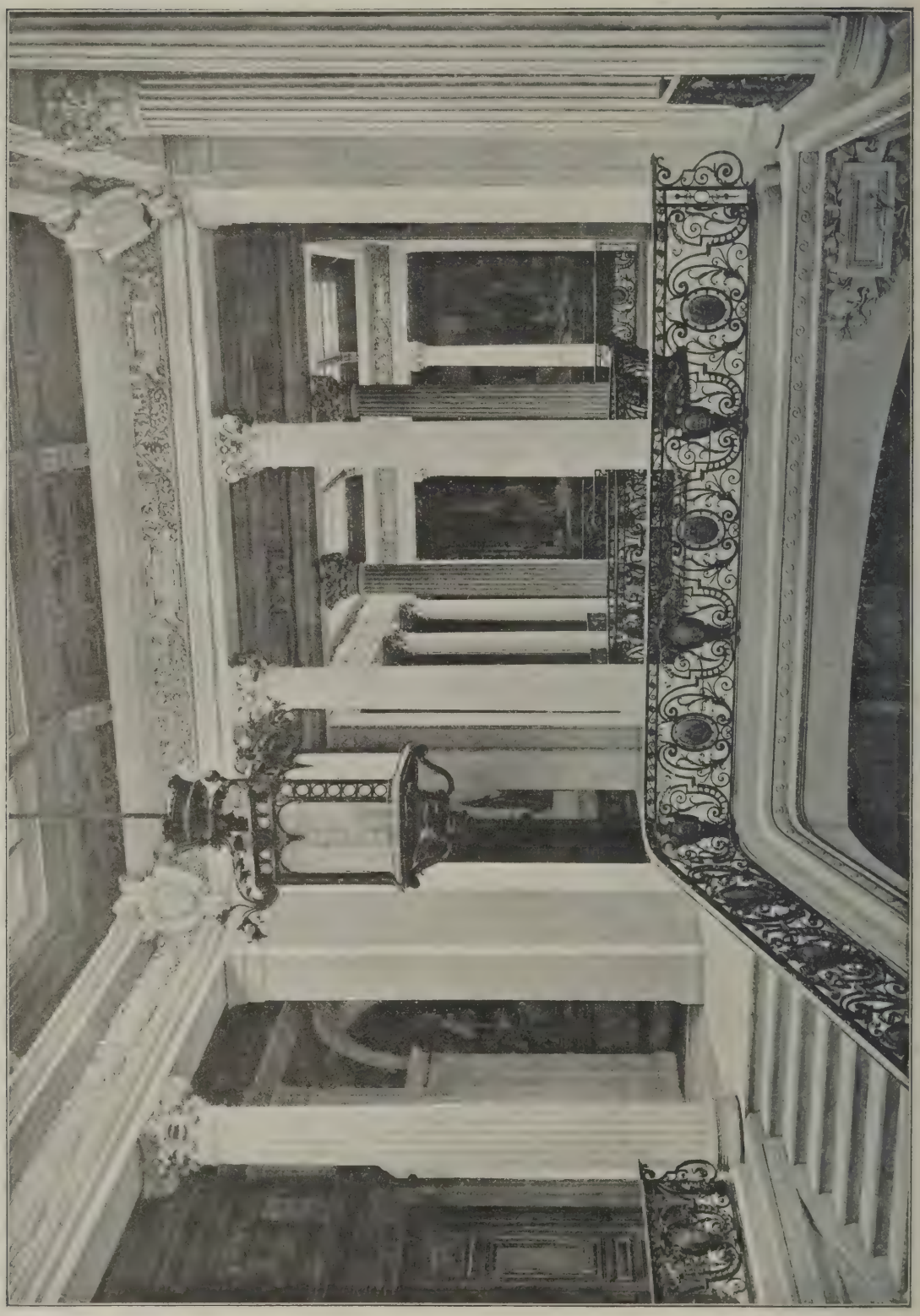
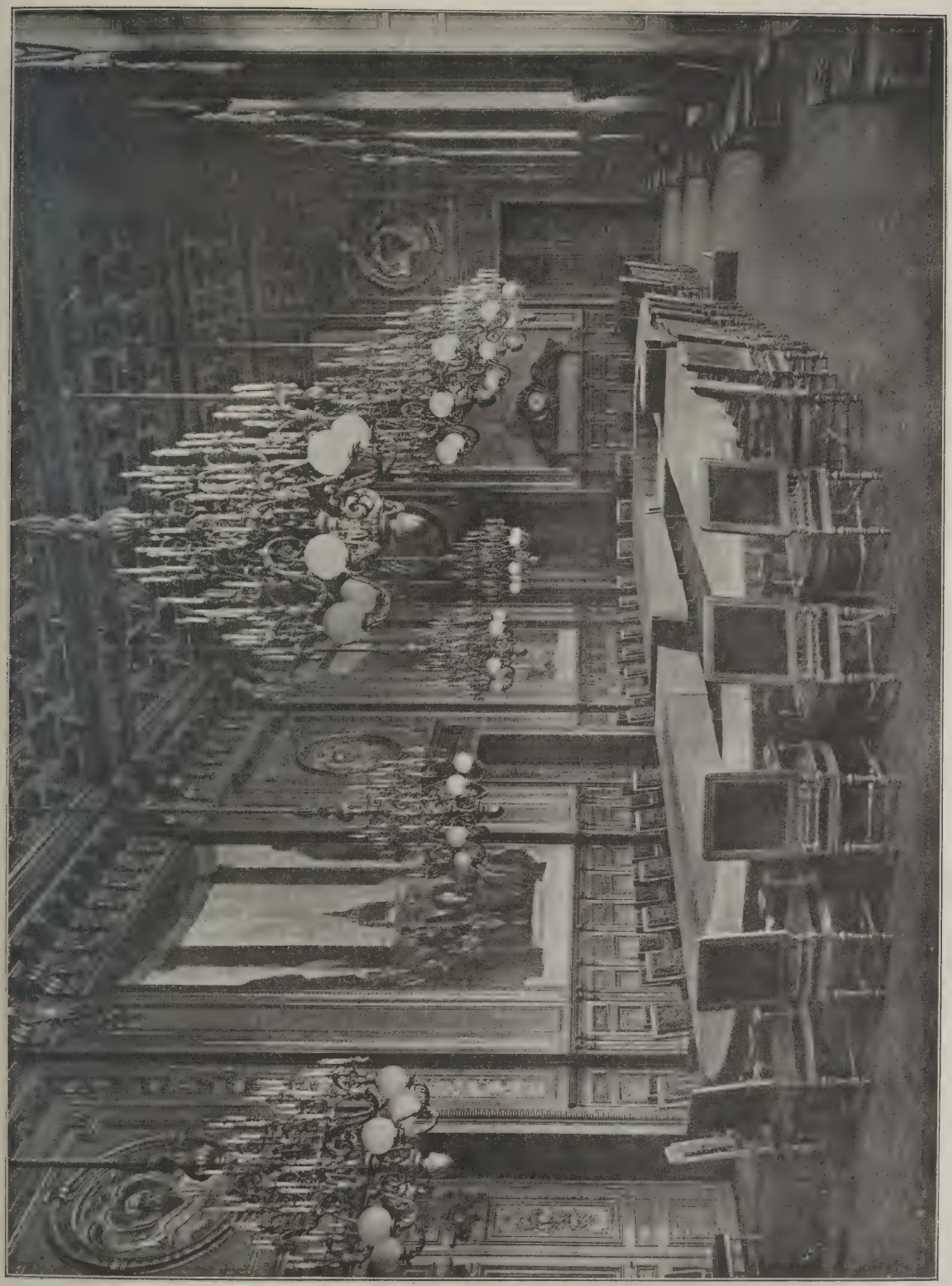
TERMINÉE EN 1900
H·P·NÉNOT
MEMBRE de L'INSTITUT·ARCHITECTE



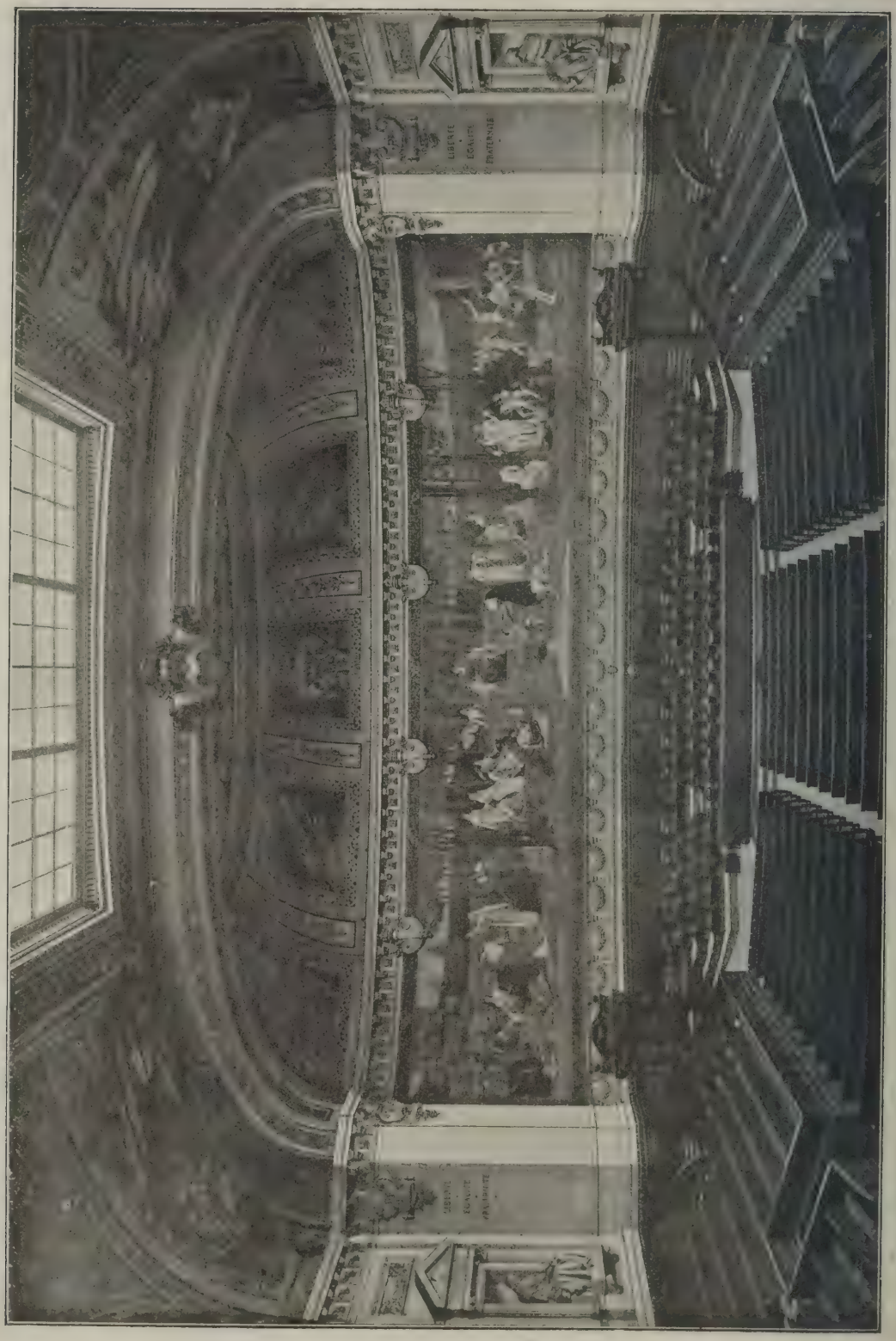
THE NEW SORBONNE: PRINCIPAL FRONT.



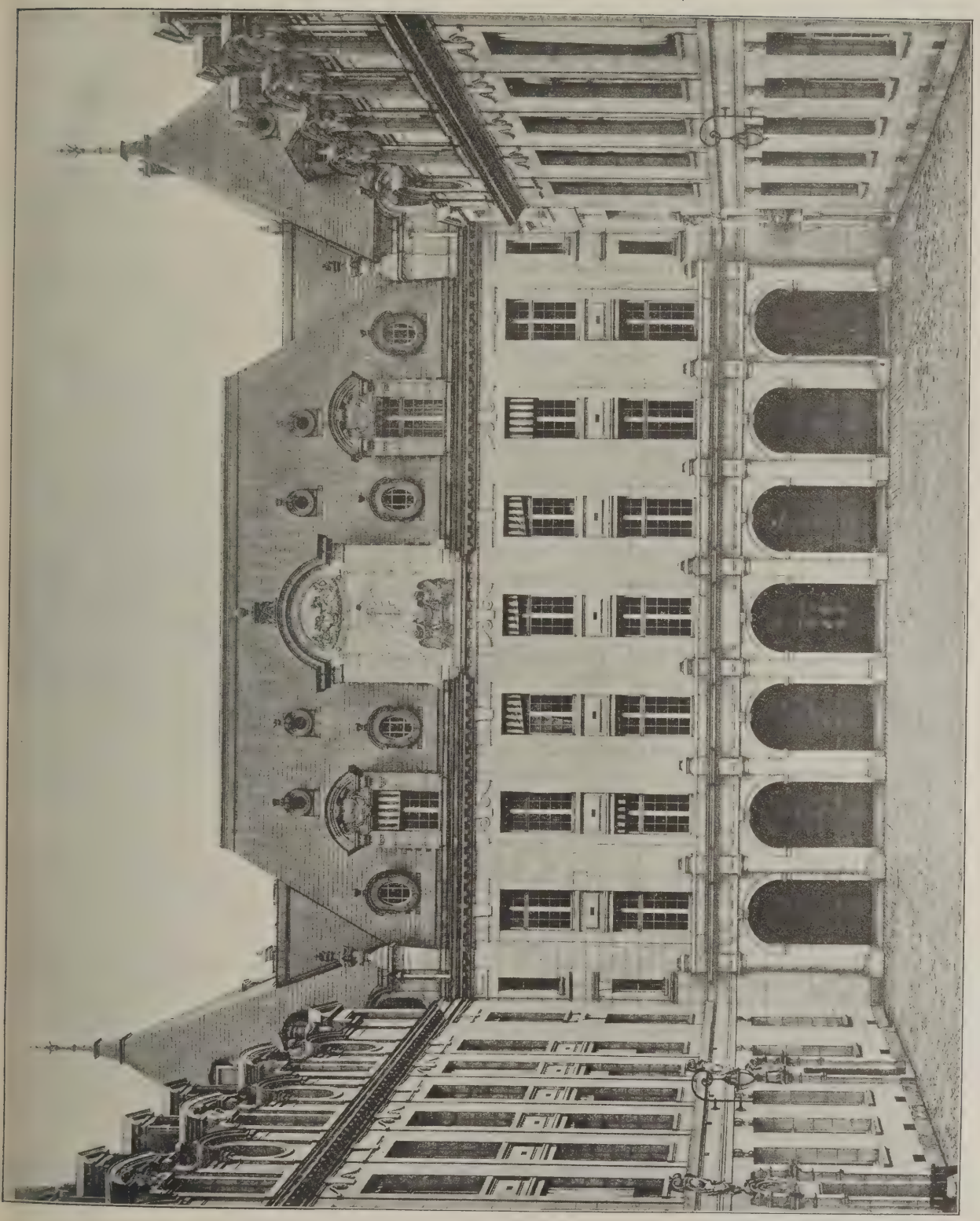
THE NEW SORBONNE: THE GRAND STAIRCASE FIRST FLOOR.



THE NEW SORBONNE: COUNCIL CHAMBER.



THE NEW SORBONNE: GRAND AMPHITHEATRE.



THE NEW SORBONNE: COURT OF HONOUR.

petition" to obtain some faint idea of the number of sleepless nights which must have been required to evolve the masterly arrangement presented upon the five double-page, beautifully engraved plates reproducing the executed plans. Then perhaps one turns to the sections to see how the planning "works up," and finds it to be amazingly simple.

So, too, one finds the elevations, and with the single exception of the Salle du Doctorat in the Faculté des Lettres, where M. Nénot has "let himself go" in the decorations, the interiors also. Even where the planning has presented the greatest difficulties it has been handled with clear vision; there is no knuckling under to them—they are not admitted to be controlling, but are themselves controlled, studied, employed—absolutely mastered—by the architect, who has made himself, as should always be the case, the prevailing spirit throughout.

It is the thorough competence of the creative artist which stands to the fore in every illustration of this illuminating work—the ability to express, and the good fortune to possess useful ideas replete with common sense, characteristic of the true artist to an extent that is not characteristic of men of any other calling whatever—the critical opinion of novelists (who make most of the common public opinion) to the contrary notwithstanding. Second only to this and consequent upon it is the clean-cut, enlightened male character of the edifice. How well it escapes the antiquated and anile aspect of so many of the new buildings for similar purposes in the countries dominated by the Anglo-Saxon! How well it disengages itself from the swaddling-clothes of the narrow sentiment which demands that the architect should for ever be

> The idiot who praises in enthusiastic tone
> Every century but this!

The Sorbonne is one of the buildings worth a trip to Paris to see; but to those of us who find such trips luxuries we must dispense with, the book in hand will be found a substitute that is not a bad one. And those who know their Paris as well as they know their way home will find it an interesting record of one of the finest modern buildings of the "Gilded Metropolis," and a valuable acquisition to the R.I.B.A. Library.

FRANCIS SWALES.

ITALIAN RENAISSANCE SCULPTURE.

Renascence. The Sculptured Tombs of the Fifteenth Century in Rome, with Chapters on the Previous Centuries, from 1100. *By Gerald S. Davies, M.A.Lond.* 1910. *Price* 21*s.* [*John Murray.*]

This fine volume deals with a subject hitherto somewhat neglected by English writers, and, although the research work of British and foreign critics is acknowledged, it is obviously the result of an exhaustive study of the long list of monuments described. As the author says, these tombs, although they cannot claim artistic equality with those of other Italian cities, such as Florence for instance, are of supreme interest historically; and, indeed, a good history of the period might be written from them alone.

Although the number of tombs noticed by the author is very considerable, it is probable that many more have been lost through accident, violence, or carelessness—Bramante himself being held responsible for many acts of vandalism during the preparations for the new St. Peter's—and of those which remain many have been built up from fragments, neglected for many years, so that in some cases even the effigy which belonged to one tomb may be found resting upon another, while the lesser details, figurines, pilasters, cornices, &c., have been transposed with even greater freedom.

The introductory chapters deal with the early work of the marmorarii and of their descendants the Cosmatesque masters of the twelfth and thirteenth centuries, with their white marble work inlaid with glass mosaic and coloured marbles. The lack of examples in Rome of fourteenth-century work, due in a great measure to the absence of the Papal Court, is mentioned and made the more remarkable when we remember that in other parts of Italy master-works were produced which make this one of the most notable centuries of Italy.

The tombs illustrated have, of course, considerable architectural as well as sculptural interest, and generally take the form of a sarcophagus, carrying the recumbent figure, with or without an architectural framework of pilasters—fluted, arabesqued, or wide and containing niches for figures—and entablature often crowned by a segmental or semicircular pediment or a deep coffered arch. Colour is admirably used in several examples. The variety in detail of the designs is very great, in many cases statuettes of saints and the Virtues and appropriate reliefs or frescoes being introduced. The inscriptions are, as a rule, rendered in fine lettering on panels, either below or on the front of the sarcophagus; that on the tomb of Antonio Chiavez in the Lateran is a particularly fine example.

In addition to these elaborate monuments there are many flat gravestones or slabs in high or low relief, a fine series existing in the pavement of S. M. del Popolo. The volume is divided into two parts, the first dealing with the tombs generally and the artists who produced them—Donatello, Filaréte, Paolo Romano, and the great "botegas" of Bregno, Dalmata, &c. It is noteworthy that whereas the tombs in Florence and other cities often commemorate men of the burgher class, the soldier, and merchant, in Rome they are, almost without exception, memorials to ecclesiastics.

In comparing the work of the fifteenth and sixteenth centuries the author says: "It appears to be the law, that stages of art which have to struggle for their means of expression will, perhaps, through

the very restraining, reserving, purifying influences of that struggle, tell you their tale, express their ideas more appealingly and, after all, more expressively than the same art when it has reached, later on, its full powers of speech and expression." A striking example of this failure to impart expression is afforded by two tombs in the Popolo by Sansovino: those of Gerolamo Basso, a man of honourable life living in a difficult age, and Ascanio Sforza, a typical prince-cardinal of the day, two natures and lives which might have inspired great conceptions. And yet these two tombs are almost identical in design, "there is nothing about them to suggest that the two men were of very different character or of any special character at all." "One wonders what sort of allegories Michelangelo would have created out of the lives of two such men."

The utility of the volume is greatly increased by the second part, which includes (1) an alphabetical list of Roman churches which contain notable monuments; (2) a chronological list of the most important tombs in Rome; and (3) a section dealing with the principal tombs of Rome from 1100–1500, arranged under churches and with short biographical notices.

Although a considerable portion of the book is devoted to historical accounts of the lives and times of the famous men commemorated, which prove that Mr. Davies has a rare knowledge of the period, but which are perhaps of lesser interest to us, the beautifully reproduced photographic illustrations of nearly one hundred picked examples, together with sympathetic and appreciative descriptions and criticisms, combine to produce a delightful volume well worthy of a place among the works on the Italian Renaissance in any architect's library. The book throughout is produced in the excellent manner we associate with Mr. John Murray's name.

Leslie Wilkinson [*A.*].

FOUNTAINS ABBEY.

The Ruins of Fountains Abbey. By the Rev. A. W. Oxford, M.A., M.D., with illustrations and photographs by J. Reginald Truelove, A.R.I.B.A. 6 × 4. vi, 245 pp. 103 *illustrations. Sm.* 8*o.* 1910. *Price* 3*s.* 6*d. net.* [*Henry Frowde, Oxford University Press.*]

In the words of the author's prefatory note, "this little book is an attempt to put in simple language for the unlearned the results of the investigations of the ruins made by Mr. W. H. St. John Hope and Mr. J. Arthur Reeve." Mr. Hope's monograph is still sold as a separate publication by the Yorkshire Archæological Society, though the writer of this book only gives an incomplete bibliographical reference to it; and Mr. Reeve's work is still current. Mr. Hope's descriptions are always as clear as they are scientific, and one wonders why his work should be diluted for the benefit of those who require to have the word "buttress" defined for them (p. 10) by a writer who uses the word pier "for a large column" (p. 10), and defines a rebate as a groove (p. 36); and one wonders, too, what a University Press is doing in this galley. A description of a church may either be written in chronological or topographical order; but if the latter method is adopted, it should be preceded by an outline of the history of the building. This, however, is not Mr. Oxford's method. He begins by placing his readers at the crossing, and describes what is to be seen from this point. The result is that the first thing to be mentioned is the tower, which was the last thing built, and lies quite outside the scheme of the church. Mr. Oxford says (p. 27) that it was Mr. Hope who first discovered that the nave of a Cistercian church was used by the *conversi*; but in the *Voyage littéraire de deux religieux Bénédictins* of 1717 we are told of Clairvaux that its "nef étoit autrefois remplie de trois rangs de chaires de chaque côté, pour placer les frères convers durant l'office" (part i, p. 99); and the use was suggested by Viollet-le-Duc in his *Dictionnaire* (i. 268). Some of the plans in the book seem to be based on Mr. Brakspear's fine plan, which does not appear to be even mentioned. The book has two appendices, but no index.

John Bilson [*F.*], F.S.A.

THE LAW OF BUILDING AND DILAPIDATIONS.

The Law of Building and Dilapidations. By Ernest Todd, of the Inner Temple and Western Circuit, Barrister-at-Law. 8*o. Lond.* 1907. *Price* 15*s.* [*Eyre & Spottiswoode.*]

With *Hudson's Building Cases* and *Roscoe's Building Cases* before me, I can safely say that Mr. Todd has responded to a want, and has compiled a work which will prove of great use and service to clients, to architects, to surveyors, and to contractors. Mr. Todd not only sets forth very clearly the law relating to the respective obligations and responsibilities of the parties engaged in the sometimes troublous operations connected with building, but he manages to illustrate his subject so aptly that the reader is at once placed in possession of that knowledge which should enable him to steer clear of the pitfalls which so frequently await him in the pursuit of his calling.

Mr. Todd evidently looks with favour upon the Form of Contract issued by the Royal Institute of British Architects; he traverses that document with a keen critical eye, and analyses the conditions with a practical mind, which must be extremely useful to those, and they are many, who are bound by conditions which are at times signed in haste to be repented of at leisure.

In chapter '., p. 5, Mr. Todd does not appear quite conclusive as to an allowance for extras where the contract having provided for an order in writing, such order was not produced; but I think a contractor would stand a poor chance before an arbitrator on such a point.

Chapter ii. is devoted to "Variations and Extras," and twelve pages are occupied by most useful information on these subjects, with references to decided cases.

Chapter iii. deals with "Specifications and Bills of Quantities"; whilst Chapter iv. sets forth with precision "The Architect's Powers and Duties," accompanied by decided cases on this so frequently contested ground of dispute.

Chapter v. discourses on "The Progress and Completion of the Works," teeming also with decided cases so useful to the man who is thinking of going to law; and Chapter vi. relates to "Damage to Persons and Property," a matter which is sometimes lost sight of by the architect and by the contractor, until they are reminded of it by some heavy compensation claim. On p. 100 Mr. Todd states that the City of London is excepted from the operation of the 1894, 1898, and 1905 Acts, but I believe that certain portions of those Acts—at all events of the 1894 Act—are within the purview of the district surveyors, and therefore all those Acts are not excepted. In subsequent pages Mr. Todd refers to questions of rights of light and disputes with adjoining or neighbouring owners, but I am not in accord with him as to the liability of a contractor with respect to rights of light in connection with building works being carried out by a contractor as such. My own experience has been that all these cases have been fought by, and at the expense of, the building owner.

Chapter vii. is a very interesting one, being on "Certificates and Payments," and it again is well illustrated by decided cases. The references to "Prime Cost and Provisionals" in the same chapter are acceptable, and the difference in meaning between p. c. value and provisional sums is properly dealt with.

Chapter viii. opens up another branch of the architect's and surveyor's business, viz., "Dilapidations," wherein much valuable matter is brought before us; and Chapter IX. deals with "Arbitration and Procedure" in a way which will be found very useful to all likely to act in the capacity of arbitrator.

The work is completed by an Appendix full of most useful information. Mr. Todd has evidently endeavoured, and in my opinion quite succeeded, to produce a book in which nothing is left out which may be of service to those engaged in the complicated, and sometimes costly and vexatious, matters connected with bricks and mortar, and to those I most heartily commend the perusal of Mr. Todd's book.

Wm. Woodward [*F.*].

CONCRETE AND CONCRETE TESTS.

By Alfred E. Corbett [*A.*].

Read before the Manchester Society of Architects, 12th January 1910.

To attempt to deal with every point in the making of concrete is quite unnecessary, considering the great quantity of information available in various books and periodicals. There are, however, gaps in this information; and when, about a year ago, my partners and I had to select materials for some 5,000 or so cubic yards of concrete for the reinforced concrete construction of the Manchester Y.M.C.A., we found an almost complete lack of available information as to the relative efficiency of local materials.

I thought that this gap might be to some extent lessened if I devoted this Paper to notes on the series of tests which we then undertook, consisting of some two hundred crushing tests of concrete (carried out at the Municipal School of Technology) and over 450 tensile tests of cement. My notes only refer to the *concrete* which is suitable for reinforced concrete, and not to the reinforcing methods or materials.

Our object was to obtain, at the minimum cost, an impervious concrete with a crushing strength of 154 tons per square foot when twenty-eight days old, or 2,400 lbs. per square inch, this being the standard laid down in the R.I.B.A. Report and assumed in our calculations.

This standard is for concrete of the type required for reinforced concrete construction, but tested in plain blocks, without any steel reinforcement; and it is used with a factor-of-safety of *four*. With steel reinforcement the strength is, of course, much greater.

It may be interesting to compare this strength of 154 tons per square foot for plain concrete at twenty-eight days old with the crushing strengths in the R.I.B.A. Report on Brickwork, where Blue Staffordshire bricks in cement averaged 135 tons per square foot, and London stocks in lime mortar only gave 18 tons per square foot, at five months old.

The most important essential is to get very good English Portland cement. This must be at least as good as the British standard, and should be very considerably better.

There is no doubt that the most practical test is the crushing test on cubes or prisms of either concrete or cement and sand, as this tests the actual quality which we depend on in the real building.

From tests of this kind (described later), carried out with six brands of cement, we had no hesitation in selecting cement "A," *i.e.* Messrs. G. & T. Earle of Hull's "Pelican" brand of cement, and this is being used on the work. I may note that this cement is so extremely finely ground that on

a mesh of 32,400 holes to the square inch it only leaves a residue of 3 per cent., instead of the 18 per cent. permitted by the standard specification.

As the whole safety of the structure depends on the cement it is advisable to carefully test samples from every consignment. For these acceptance tests it would be too expensive to crush cubes from each consignment, but after the cement has been selected on the results of crushing tests it is quite possible to ensure that the quality is kept up by means of tensile tests of sand briquettes, which are easily carried out on the works.

For sand tests it is necessary to use "Standard Sand," *i.e.* Leighton Buzzard sand, which passes through a $\frac{1}{20}$-inch mesh and is retained on a $\frac{1}{30}$-inch mesh. Three parts of sand by weight are mixed with one part of cement, and lightly rammed with a 22-oz. rammer.

To get correct results the making and storing of briquettes should be done in a room of which the temperature is kept between 58° and 64° F. In our case all briquettes and concrete cubes were made on the site, under somewhat rough-and-ready conditions, and the temperature was often low, so that our results are not ideal, but are enough to satisfy us as to the uniformity of the cement as delivered.

Fig. 1 shows by diagram our results for the three months during which we made both sand and neat briquettes. The sand briquettes average 286 lbs. at seven days, 349 lbs. at twenty-eight days, and 445 lbs. at three months old. This twenty-eight-day sand average is 40 per cent. above the British standard. (The three months' results are not plotted, as they are incomplete.)

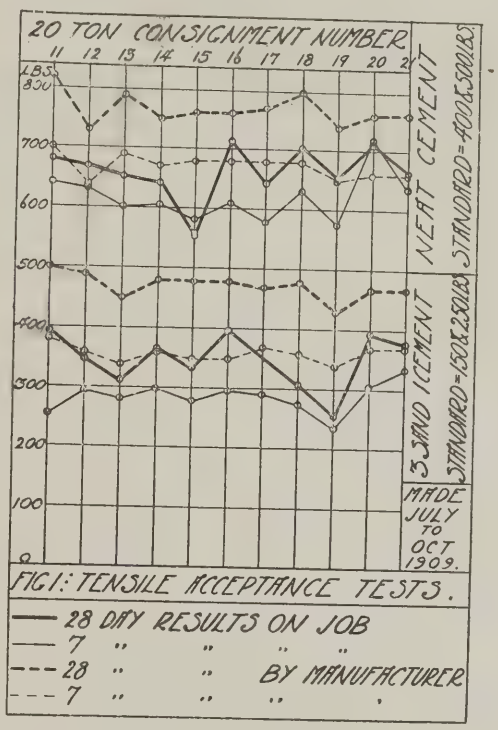
For comparison is added the result obtained in the manufacturers' laboratory, where more skilful handling and an even temperature have naturally given higher figures, viz. 359 lbs. at seven days, and 473 lbs. at twenty-eight days, the latter being 89 per cent. above the standard.

I may mention that the manufacturers' *compression* tests at twenty-eight days for 3 to 1 sand cubes averaged 292 tons per square foot, or nine and a half times as much as the tensile strength—a result which was confirmed by the few similar tests which we made.

Our neat cement briquettes at seven and twenty-eight days averaged 619 lbs. and 663 lbs. respectively. The manufacturers' own results for the same period averaged 672 and 767 lbs. All these neat briquettes were made by thumb pressure only, without any ramming at all. (The manufacturers also tested briquettes which had been rammed into the moulds with a small brass rammer, the results averaging 15 per cent. better than the thumb-pressure briquettes, and also neat *compression* cubes, which averaged 615 tons per square foot, or 10.8 times as much as the rammed tensile briquettes.)

There is something very mysterious about the behaviour of neat cement briquettes, as the long-date tests of even the best cement often do not show any increase in strength! In our own tests the three months' results averaged 648 lbs., or less than the twenty-eight-day tests; although the three months' *sand* tests showed an increase of nearly 30 per cent. over the twenty-eight-day. As this phenomenon is puzzling the leading experts of the world, we need not waste time in attempting to discuss it. Our own conclusion was that it is safest to trust solely to sand tests, which are quite reliable; and for nearly three months we have stopped making any neat briquettes.

There is no doubt that cement testing is a delicate operation, and that the personality of the operator has a considerable effect on the result.



Messrs. Marsh & Dunn advise that for acceptance tests the *highest* of a number of test results should be taken, instead of the average, assuming that the highest is most nearly what the cement is capable of doing, whereas the lower results are most likely due to careless handling. Our highest results from each consignment averaged 374 lbs. for twenty-eight-day sand and 715 lbs. for twenty-eight-day neat; the latter being within 7 per cent. of the manufacturers' result.

It is possible to get a cement which gives excellent strength results, and yet is very dangerous to use owing to its expansion while hardening. To guard against this the *Chatelier* test should be used, in which the effect of time is rapidly obtained by immersion in boiling water for six hours. On

its introduction many manufacturers protested that it was too stringent, and could not be complied with, but it is now generally regarded as being of the greatest value. The British standard permits an expansion, by this test, of 10 mm., and the fact that we have never found more than $1\frac{1}{2}$ to 2 mm. on our work shows that manufacturers have been more than equal to the demand on them.

There has been much discussion recently as to the reliability of similarly accelerated tests for *strength*, but as yet they are not generally accepted.

The practice of spreading cement out to air before using it, which used to be generally specified, is now quite out of date for good cement. If a cement will pass the " Chatelier " test it is ready for immediate use, and exposure to air is detrimental to it.

We must now consider the aggregate, which is divided into coarse aggregate, passing through a $\frac{3}{4}$-inch mesh and retained on a $\frac{1}{4}$-inch mesh ; and fine aggregate, or sand, passing through a $\frac{1}{4}$-inch mesh.

I will only refer to aggregates which we have actually tested.

Our first tests were on twenty cubes of concrete made with several stones and crushed brick, but the results were so disappointing that we determined on a more comprehensive series of tests which should give us reliable data as to both coarse and fine aggregates.

After inquiries as to what stones had been used successfully for concrete we selected five varieties : Penmaenmawr granite ; Chatburn limestone, and three coarse local sandstones, Greenfield, Whitworth, and Fletcher Bank.

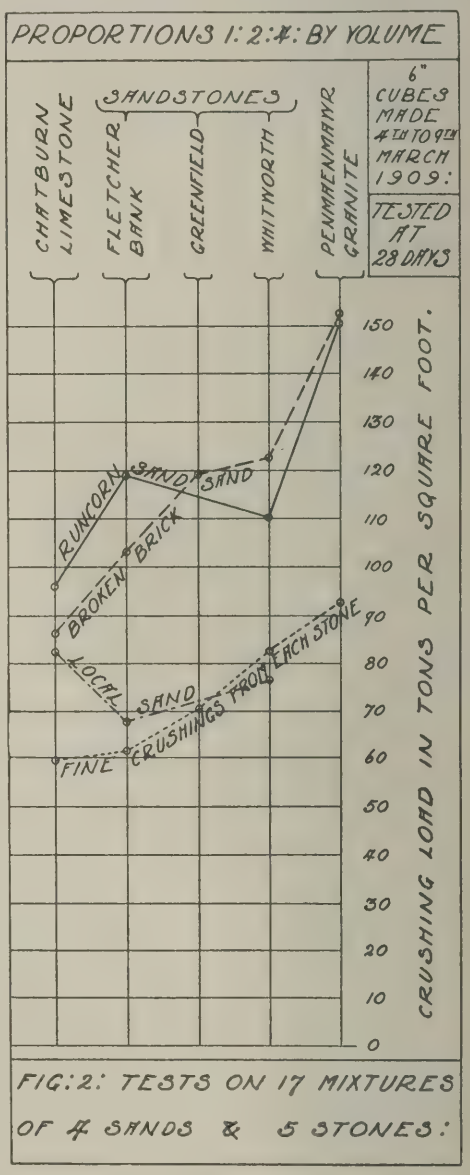
The crushed stone was separated from its own sand, or fine crushings, by riddling with a $\frac{1}{4}$-inch mesh, and then five kinds of concrete were made by re-combining each stone with its own sand in the proper proportion. Three other kinds of sand, local sand, Runcorn sand, and broken brick sand, were also used, so that altogether we had seventeen different mixtures of stone and sand ; and of each mixture we made one 6-inch cube with cement " A " and two 6-inch cubes with cement " B."

The local sand (from Irlams-o'-th'-Height), like very nearly all Manchester sands (with an exception to be mentioned later), is full of little black specks of some bituminous matter which develop into big drops of a black oily appearance, and very much injure the cement. I have heard that they also cause expansion, but have no experience of this. Runcorn sand is a medium coarse sand dredged out of the river Mersey, and for this set of tests was free from shingle or small stones. For the later tests, and for the actual work, it contained a good deal of fine shingle, which apparently increased the strength of concrete by about 12 per cent.

The broken brick sand was crushed by hand from ordinary hard common bricks, and one-sixth was retained on a $\frac{1}{7}$-inch mesh.

The batches of concrete were made in the proportion of one of cement, two of sand, and four of aggregate, by volume (or approximately 1 : 2.8 : 4.8 by weight).

It is important in specifying to state the proportions separately, as two volumes of sand and four



volumes of aggregate would make rather less than five volumes if mixed together, so that a 1 : 2 : 4 mixture is really a trifle richer than what used to be described as 1 to 5 concrete, and to speak of it as 1 to 6 may mislead either you or your contractor as to price.

Fig. 2 shows the crushing strengths of these cubes

arranged to indicate the value of each sand, as well as each aggregate.

Obviously the Runcorn and broken brick sands are much superior to either the local sand or the crushed stone sands.

For simplicity I have only shown the results with cement "A," which averaged just 50 per cent. higher than those with cement "B." As the latter is a well-known brand it seems possible that the bag sent to us for testing was not quite up to their usual standard.

As the cement and sand are of such primary importance, we prepared a number of four-inch cubes of sand and cement, 1 to 2 by volume, using each kind of sand and six different brands of cement. The crushing loads per square foot at twenty-eight days with cement "A" were 205 tons for Runcorn sand, 197 tons for broken brick sand, and only 51 tons for local sand; the other cements giving similar comparative results, though lower. Thus the Runcorn sand proved somewhat stronger, and as we considered that it would also be a more uniform article than broken brick sand, owing to the difficulty of ensuring that nothing but hard bricks should go into the crushing machine, we adopted it for the work.

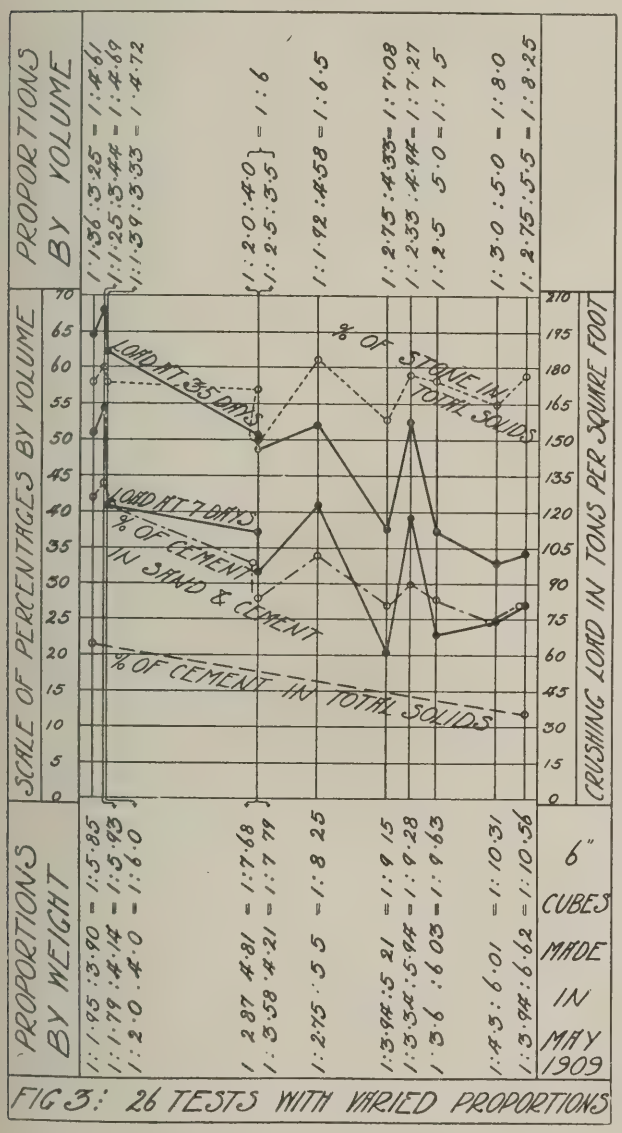


FIG 3: 26 TESTS WITH VARIED PROPORTIONS

We had now selected materials which we knew to be good. There remained the question whether by any variation in the proportions it was possible to secure either a better concrete or a smaller proportion of cement.

Fig. 3 tabulates the results of twenty-six tests with eleven different proportions of concrete, all made with "Bolton granite" sandstone and Run-

At first sight it would appear that the strength of all these concretes was insufficient to meet our need for 154 tons per square foot, the reason being that these test cubes were made early in March, and cold nights were frequent and checked their hardening. We did not realise the difference this would make until we had crushed all the cubes made with cement "A," but we only crushed one out of each pair of cubes made with cement "B" at twenty-eight days old, and crushed the others at forty-two days old, assuming this to be nearly equal to twenty-eight days of summer weather. The average results of the five concretes made with cement "B" and Runcorn sand was 30 per cent. better at forty-two days than at twenty-eight days, so that assuming a similar increase of strength if the stronger cement "A" were used we were certain to get approximately the required strength from either of the three sandstones. The limestone was out of the question (we should have had grave doubts as to using it even if it had proved stronger, owing to its weakness as a fire-resister), and the granite, though giving the best result, was too costly to consider unless the other stones had failed.

Of the three sandstones, various considerations, including the preliminary test results not recorded here, led to the selection of Greenfield stone. Almost immediately, however, we found an almost identical stone, under the name of "Bolton granite," which was, if anything, somewhat better, and we used it for most of the work, though we found it useful to have two quarries available from which good stone could be obtained.

corn shingly sand. (In this diagram the proportions and percentages are plotted according to volume, as required by the R.I.B.A. Report, but as many investigators give their proportions by weight I have added the weights at the bottom of the diagram.)

The strength of concrete depends on its density, and if the aggregate contain a large percentage of voids an extravagantly large proportion of cement will be required to fill up the voids and make a dense mixture. The ideal is to have enough smaller material, say $\frac{1}{4}$-inch, to exactly fill the spaces between the $\frac{3}{4}$-inch stones; just enough $\frac{1}{16}$-inch material to fill in between the $\frac{1}{4}$-inch; and so on down to the very finest grains of sand. Then just enough cement paste must be added to fill the very small crevices between the finest grains of sand.

Careful experiments have been made in America to determine the exact proportion of each size of material requisite to obtain the greatest possible density. (See Summary in *Concrete* for September 1907.) To apply these scientific results practically it would be necessary to have all the aggregate, including sand, screened through perhaps six or eight different sizes of mesh—say, for instance, $\frac{1}{16}$-inch, $\frac{1}{8}$-inch, and increasing by eighths of an inch up to a $\frac{3}{4}$-inch mesh—and to use a certain fixed quantity of each size of grain in every batch of concrete. If this were done, and the mixing and placing were very perfectly carried out, an exceptionally small proportion of cement would make an excellent and very uniform concrete. Special plant and care would be necessary, but on large works the saving in cost of cement and the reliability of the product would be likely to outweigh the extra cost of working.

A less perfect method would be to make a mechanical analysis of samples from each consignment of crushed stone and sand, by riddling into six or eight sizes of grains. It could then be seen what quantities of certain sizes of grain should be added to bring the whole up to an ideal proportion, and a little specially riddled stuff, or possibly a little finer or coarser grained sand, would supply the deficiency. I cannot give you any actual results of such scientific proportioning.

The usual practice is to be satisfied with three divisions, viz. cement, sand, and stone from $\frac{1}{4}$ inch to $\frac{3}{4}$ inch, and there is an easy method of ascertaining what proportions of these three materials will give the densest mixture, by taking the same total weight of material, combined in different proportions and mixed together with water, and ramming into a mould. The mixture occupying the smallest volume is the densest concrete.

After experimenting on these lines the most ideal mixture we made into cubes was 1 : 2.34 : 5.47 by volume (not shown in Fig. 3 as the conditions were not identical), which gave an excellent result in proportion to the cement used, but needed so much ramming to close up the voids that it was an undesirable mixture for practical use.

Some excess of cement and sand is absolutely necessary to make the concrete work sweetly, and in reinforced work a rather larger excess is needed than in mass concrete, unless an unusual amount of ramming is insisted on. I do not know any way of determining what excess of sand is necessary except the actual "feel" of the concrete while it is being mixed and moulded.

In our tests we noted how each mixture behaved, and decided that for our materials two volumes of sand to four volumes of aggregate was a workable mixture, and this, with one of cement, gave the desired strength of 154 tons per square foot. (The proportions by weight are 1 : 2.8 : 4.8.)

The batches were made with one bag of cement containing one cwt., or $1\frac{1}{2}$ cubic feet, of cement; three cubic feet of sand, and six cubic feet of coarse aggregate, which we found produced $7\frac{1}{2}$ cubic feet of wet concrete.

As it happens, this is the generally adopted proportion which we used for the previous set of tests, but the investigation was well worth making, as some other proportion might have proved better. It also emphasised a point which may perhaps best be grasped by considering the fine aggregate or sand and cement as forming mortar, which binds together the coarse aggregate. The more densely the aggregate will pack together the less mortar is required to fill the voids, and the less cement is required for a given strength of mortar.

Fig. 3 proves that it is the proportion of cement *in the mortar* (shown by chain dotted line), rather than the proportion of cement to total aggregate (shown by long dotted line), which chiefly governs the strength of the concrete.

For instance, the $7\frac{1}{4}$ and $6\frac{1}{2}$ to 1 concretes are actually stronger than the 6 to 1 concretes, because the slightly less quantity of cement which they contain is combined with a considerably less volume of sand, and so forms a richer mortar. Also the high percentage of stone produces a denser mixture.

If we take the central group of six mixtures, varying from 1 to 6 to 1 : $7\frac{1}{2}$, and average the three best results and the three worst, we find that the three best average barely 4 per cent. more cement than the three worst, but in the proportion of cement to sand the increase is 16 per cent., and this increase of 16 per cent. in the richness of the mortar produces an increase of 25 per cent. in the strength of the concrete.

In other words, provided that we have sufficient sand to fill up the voids in the coarse aggregate, the less additional sand we use the stronger will be the concrete, for a given proportion of cement.

It is very difficult to keep exactly to the desired proportions, and to avoid an occasional excess of sand, and consequent weakness. Wet weather tends to clot the sand together and prevent it passing through the holes of the screening machine.

Even if the stone leave the quarry absolutely clean a small quantity of sand is produced on the journey by attrition, due to the jolting of the railway truck, unless the stone is a very hard one. Careful inspection of every load is necessary, and if too much sand appears either a sample should be riddled with a $\frac{1}{4}$-inch mesh, the proportion of sand ascertained, and a correspondingly less amount of sand added; or, better still, the whole should be riddled free from sand.

It is evident that even in the case of a stone the fine crushings of which are suitable for use as sand, such as Portland stone, it is very important to first screen out the fine stuff entirely, and then add it in just the right proportion, as you cannot depend on a crushing machine always producing the same proportion of fine stuff.

It is imperative for reinforced work that there shall be no voids whatever in the concrete, as—apart from its effect on strength—any honeycombing gives an opportunity for future corrosion of the steel reinforcement.

On this account a very wet mixture of concrete is generally preferred, rather than a dryer one, as the sloppy concrete is not so dependent on ramming for its density, although it always should be rammed, even if only to remove air bubbles. Experts have not yet agreed on any definition of degree of wetness in concrete, so it is a matter for individual judgment.

The mixing should always be done by a machine, those which do a batch at a time being better than continuous mixers.

Some experts lay stress on the importance of thoroughly saturating the stone before putting it into the mixer, in order to prevent its absorption of water after mixing. I think that this is only of importance where a somewhat closer-grained stone than ours is employed, as our small pieces of coarse sandstone would be saturated before they left the mixing machine, provided that a wet mixture is used.

We tested six cubes from a batch made with dry stone, and six with saturated stone, and at two and four weeks old the dry stone concrete was stronger than the wet, but at four months old they were exactly the same strength. Sample cubes of concrete from the mixing machine should be made every day throughout the work, and stored under damp cloths; and some of these, though not necessarily a large proportion, should be tested. It is not to be expected that these cubes will always be quite as good as the carefully-made experimental cubes, and it must be remembered that if the cubes are exposed to the open air a low temperature will delay hardening very materially, so that a concrete attaining a twenty-eight-day strength of 154 tons per square foot in summer might give less than half that result in twenty-eight days during autumn or winter, but it would eventually attain to the same strength.

Fig. 4 shows the results of crushing forty-five cubes taken at random from the daily sample cubes. The lowest results are no doubt largely due to excess of sand in the bit of concrete which happened to be selected for that particular cube. An occasional *excess* of sand is most difficult to prevent, but if there should ever be too little sand in a batch the workmen would at once complain, as it makes the concrete very difficult to work.

Most of the results are adversely affected to some extent by cold weather, and bearing this in mind I think we may fairly consider the results satisfactory, especially when we note how the

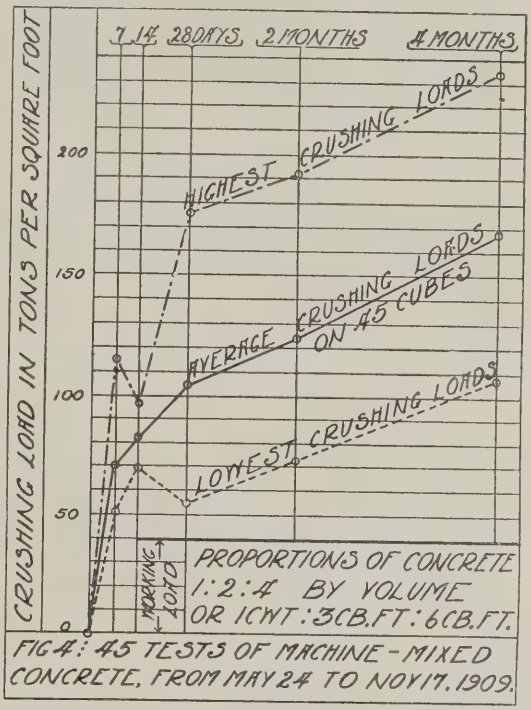


FIG 4: 45 TESTS OF MACHINE-MIXED CONCRETE, FROM MAY 24 TO NOV 17, 1909.

strength is still rising rapidly even at four months old.

Stress is very properly laid on the need for depositing concrete before it has begun to set, some specifications insisting that it shall be in position within ten minutes of mixing. The time depends on the cement and the weather, and after testing we decided that half an hour was perfectly safe, and that even an hour might elapse with little harm.

The initial set for our neat cement averaged two hours, and the final set nine hours, but apparently these times are extended when the cement is used in wet concrete. On a fairly mild day a portion of a batch from the machine-mixer was set aside, and two cubes were made from it every two hours, up to eight hours after mixing, the crushing results being as follows:—

(The actual setting times for the cement in this batch were $2\frac{1}{2}$ and 10 hours).

Age at Test.	Time between Mixing and Moulding.				
	Fresh.	2 hours.	4 hours.	6 hours.	8 hours.
2 months . .	192	174	150	126	160 (!)
4 months . .	234	183	172	167	136

A previous test on concrete one hour old showed it to be actually stronger than fresh concrete, but this single test cannot be relied on.

Concrete such as we are using is practically water-tight, but sometimes absolute water-tightness is required, as for instance in our building where a 60-feet swimming bath has to be erected on the fifth floor. We, therefore, made some tests with "Medusa Waterproof Compound," both as to waterproofing and strength.

Boxes 12 inches high and 6 inches square outside on plan, with bottom and sides 1 inch thick, were made with three volumes of Runcorn sand to one volume of cement (*i.e.*, 4.3 to 1 by weight). This is a poorer mortar than we are using in the concrete, as we wished for a mixture which would not be quite water-tight with ordinary cement.

In one box the cement was mixed with 2 per cent. by weight of Medusa compound—that is, one half per cent. of the total volume of solids was Medusa compound.

When two months old the boxes were filled with water.

There was a very slight flaw in the bottom of the Medusa box, which however entirely closed up within three days, and after that the outside of the box was quite dry, and in three weeks the outside of the plain box was quite dry.

The water in the Medusa box fell at the rate of one-tenth of an inch per week during a period of eight weeks, with an extra quarter inch in the first week, while the water in the other box fell at the rate of $3\frac{3}{4}$ inches during the first week, gradually lessening to half an inch during the eighth week; the total leakage in the second case being eleven times as much as in the first, a rather remarkable result to follow the addition of one half per cent. of solid matter. Doubtless, if evaporation had been entirely prevented, the difference would have been much more striking. The boxes were covered with a loose tile, and probably most of the loss in the Medusa box was through evaporation. It is interesting to note that the porosity of the box made with ordinary cement gradually closed up, so that in the eighth week there was only *one-eighth* of the leakage that there was in the first week. This is a useful characteristic often observed in concrete.

This Medusa material is said not to affect strength, but to satisfy ourselves we made nine tensile briquettes with cement containing 2 per cent. of Medusa and another nine with 10 per cent. of Medusa, to get an exaggerated effect, though so high a percentage would never be actually used. The tensile results were as follows:—

Sand mixed with	Strength at 28 days.	Strength at 3 months.
Plain cement	395	501
Cement + 2 per cent. Medusa .	348	446
Cement + 10 per cent. Medusa	263	389

That is, the 2 per cent. mixture was 90 per cent. of the strength of plain cement, and for most uses of the material such a slight decrease in strength would be of no importance.

Until the building was well advanced we had not found any Manchester sand worth serious consideration, owing to the bituminous specks previously mentioned; but later on we obtained some rather fine-grained sand from Openshaw, near Manchester, for the purpose of setting the terra-cotta, for which Runcorn sand was too gritty; and tensile briquettes with this sand gave remarkably good results.

Whereas the Runcorn sand which we were using for concrete was 12 per cent. weaker than standard sand, at twenty-eight days Openshaw sand was 14 per cent. stronger than standard, the actual results being 333 lbs., 378 lbs., and 433 lbs. respectively, for three to one mixtures by weight.

This naturally led to further concrete tests, but there has not yet been time for any long-date results. An indication of the probable result was seen while making the cubes, as the relative specific gravities of the freshly-made cubes, with all Runcorn, half and half, and all Openshaw sand respectively, were 2.39, 2.423, and 2.427. This showed that Openshaw sand makes a slightly denser concrete, and so one would expect it to be stronger.

We have as yet only tested two cubes of each kind, at nineteen days old, and the results were practically equal for all three mixtures. Taking into account the tensile results and the density we have decided to use henceforth a mixture of half Runcorn and half Openshaw, and we hope that further tests will confirm this decision.*

I am quite aware that from a scientific point of view our tests are very crude and incomplete, but in the absence of more precise information about the materials mentioned the facts that we have ascertained may be of value in saving the time of other investigators.

Few architects have either time or opportunity for really exhaustive research work, but doubtless many carry out occasional tests similar to ours, and by making the results common property we should very soon have a valuable set of facts to refer to.

* Since the lecture single cubes three months old have been crushed, and the half and half and all Openshaw were respectively $6\frac{1}{2}$ per cent. and $7\frac{3}{4}$ per cent. stronger than the all Runcorn.—A. E. C.

9 Conduit Street, London, W., 12*th November* 1910.

CHRONICLE.

THE OPENING GENERAL MEETING.

The inaugural meeting of the session was held in the new meeting-room of the Institute,* the largest of the three galleries in the rear of No. 9 Conduit Street which now form part of the Institute premises. The occasion was a specially interesting one to those who had taken part in or followed the proceedings of the recent Town Planning Conference, and there was a large attendance of members and visitors, including several ladies. The President had an attentive and very appreciative audience, his Address being frequently and warmly applauded. The Council had entertained at dinner the same evening the Earl of Plymouth [*H.A.*], Sir George Reid, Sir L. Alma-Tadema, O.M., R.A. [*H.F.*], Sir Alfred East, R.A. [*H.A.*], Mr. Solomon J. Solomon, R.A. [*H.A.*], Mr. Seymour Lucas, R.A., Professor W. M. Flinders Petrie, Mr. John W. Simpson [*F.*], Mr. Raymond Unwin, just previously elected Fellow, Mr. Frederick W. Platt, Building Surveyor for Salford, and Mr. Bertram Christian. These gentlemen afterwards attended the meeting.

The King and the Institute.

At the opening of the proceedings the President called upon the Secretary to read the following letter which had been received from Sir William Carington at the close of the last sessional meeting :

Marlborough House : 21*st June* 1910.

Dear Sir,—I am commanded by the King to inform you that His Majesty is graciously pleased to become Patron of the Royal Institute of British Architects, and that His Majesty will continue to present to your Society the Royal Gold Medal for Architecture.—Yours faithfully,

W. Carington,
Keeper of His Majesty's Privy Purse.

The Secretary R.I.B.A.

The announcement was warmly applauded.

* The old meeting-room on the first floor of No. 9, where the Institute meetings have been held without a break for the past fifty-one years, is now to be kept solely for the use of the Library. A plan of the new premises, with a description of the purposes they are to serve and the work done to adapt them for these purposes, will be found in the Journal for 24th September.

Nominations to Hon. Membership.

The President said he thought that the Meeting would like to hear read the very interesting list of names of distinguished men who had kindly consented to become members of the Institute, and who were now nominated for election. The Secretary read the names as follows :—

As Hon. Fellows.

The Right Hon. Arthur J. Balfour, P.C., M.P. ; The Right Hon. John Burns, M.P., President of the Local Government Board ; The Right Hon. Lewis Harcourt, P.C., M.P. ; Field-Marshal Viscount Kitchener of Khartoum, G.C.B., O.M., G.C.M.G. ; The Right Hon. the Earl of Plymouth, P.C. ; The Right Hon. the Lord Redesdale of Redesdale, G.C.V.O., K.C.B.

As Hon. Corresponding Member.

Daniel Hudson Burnham, M.A., Ph.D., LL.D., Chairman of the American Commission of Fine Arts ; of Chicago, U.S.A.

As Hon. Associates.

David George Hogarth ; William Hesketh Lever ; John Seymour Lucas, R.A. ; Professor W. M. Flinders Petrie ; John Singer Sargent, R.A. ; Marion Harny Spielmann, F.S.A. ; William Hamo Thornycroft, R.A. ; Lawrence Weaver.

The Town Planning Conference : Presentation to Mr. John W. Simpson.

The President, before delivering his Opening Address, said he had a pleasant duty to perform in connection with the Town Planning Conference which had recently taken place under the auspices of the Royal Institute. They would all be aware that it was largely in consequence of the support received from the Royal Academy, from the Corporation of the City of London, and from various public-spirited persons that the Conference had been so great a success. Letters of thanks, formally signed by the President and Council of the Institute, had been sent to the various gentlemen and corporations who had given such generous assistance in the work, but he thought members would like an opportunity of expressing by acclamation their appreciation of the services which had been so freely rendered. Their thanks were in the first place due to the Royal Academy for lending their galleries in which to hold the Exhibition, to the Corporation of the City for lending the Guildhall for the purpose of the Inaugural Meeting, and to the Lord Mayor for his generous entertainment of the Conference at the Mansion House. He asked the meeting to give the most cordial expression of their appreciation of all these courtesies. (Loud applause.) Coming to their own particular branch of the work they had to thank the Executive Committee, with the indefatigable chairman Sir Aston Webb at its head, for the immense amount of work they had done for the Conference. He was sure, however, he should have the whole committee with him if he singled out two members of that committee

who were deserving of the Institute's special thanks. The first was Mr. Raymond Unwin—(applause)—on whose shoulders had fallen almost entirely the organisation of that magnificent exhibition at Burlington House. He would call their attention to the fact that at the time Mr. Unwin was doing all this work he was not a member of the Institute ; he had taken all this trouble for the good cause without being in any way officially connected with the Institute. He (Mr. Stokes), however, was now glad to be able to inform the Meeting that the Council had that day elected him as a Fellow—(applause)—in recognition of the great services he had rendered, first to the cause of Town Planning, and secondly to the Institute, for it was no small thing for the Institute to have brought about such a remarkable exhibition, and it was no small thing for Mr. Unwin to have organised it in the splendid way that he had done. The second name was that of Mr. John W. Simpson. (Loud and prolonged applause.) He thought that applause showed very conclusively how much Mr. Simpson's work was appreciated, and it was hardly necessary for him to expatiate upon it. He should like to say, however, in spite of that applause, that he did not think members had any notion of the enormous amount of work he had done. Mr. Simpson was a born organiser, and it was thanks to his splendid talent in this regard that the Conference had been such a success, and had gone off without hitch of any kind or sort. Members had testified their appreciation by clapping their hands, but it had occurred to the Council that the Institute would like to give Mr. Simpson something a little more tangible than applause ; so they had bought him as a present an old Sheffield plate inkstand and he hoped they would approve of the design. (Applause.) It was the kind of thing he thought that Mr. Simpson would most like. On it was inscribed "To John W. Simpson, from the Royal Institute of British Architects, in appreciation of his services to the Town Planning Conference 1910." (Applause.) He would not ask Mr. Simpson to gauge their appreciation of his work at the face value of this inkstand, but he was sure members would like to make him a present of some kind, and he therefore proposed to present this inkstand on their behalf. He would ask Mr. Simpson to accept it as a small token of their esteem and regard. (Loud applause.)

Mr. John W. Simpson [*F.*], who was received with enthusiastic cheers, said he was very grateful —more grateful than he dare attempt to tell them—for all the kind things the President had said and for members' endorsement of those kind things by their applause. It was, he believed, the first time that the Institute as a whole had made such a presentation to one of its members, and he felt very proud that they had thought him worthy to receive it. His pride, however, was tempered by the fact that he was really but a figure-head—("No !")—and that he received their thanks as representing a band of workers over whom he had had the honour to preside—a band so large in numbers that he feared the resources of the Institute did not, alas ! suffice to pre ent each one with an inkstand ! He desired therefore to acknowledge on behalf of his fellow-workers the recognition so handsomely and generously accorded. It was a great pleasure to him to have this occasion of saying publicly how much he owed to the President, and to Sir Aston Webb as Chairman of the Executive Committee, for the full and unquestioning confidence they had been good enough to place in him, so that he felt that whatever steps he took he should be sure of having their support. There were many others. There was Mr. Unwin : he need not dwell on what he had done ; it was known and seen by every one. He could only say that with such an organiser as Mr. Unwin at his elbow it would indeed have been difficult to go far wrong. Mr. Lanchester, too, as Secretary of the Executive Committee and of the Papers Committee, had done an enormous amount of preliminary work that had perhaps hardly been understood by those who merely saw the end of it. Then there was Sir Brumwell Thomas, to whose patient care was due the credit for arranging the visits. Last, but not least, there were Mr. Henry Tanner and Mr. Dare Clapham, who acted as brigadier-generals in charge of a mixed division of police, commissionaires and boy scouts, achieving great renown as being men who knew their job and saw that someone else did it ! (Laughter.) These were but a few of the names he might mention as entitled to the Institute's thanks ; their acts and all that they did, were they not written in the Book of the Chronicles of the Conference, which he hoped would be issued shortly ? He could not let the occasion pass, however, without special mention of the devoted and unselfish work of the staff of the Institute. (Loud applause.) He was afraid they had been abominably ill-treated ; they had been very hard worked indeed, but from the Secretary to the typists it had been a pleasure to be associated with them in intimate work. It had been their good fortune to achieve success, and he thought the Royal Institute was benefited by being brought so prominently into public notice. It had been given a place in the sun, and it was for the body of its members to keep it there. The Institute had done its duty to the profession by showing the public that the finest town planning was, and always had been, done by architects. Let the architects of this country profit by the lesson which had been given to the public. It would be a poor return for all their kindness to detain the meeting any longer from hearing the President's Address ; but in the name of his co-workers, who, he hoped, would come and dip their pens in his beautiful inkstand as often as they could for the good of the Institute, he

thanked them from the bottom of his heart for their generous kindness.

The Proposed St. Paul's Bridge.

The *Times* of Tuesday printed the President's Opening Address almost *in extenso*, and his references to the St. Paul's Bridge question furnished the text for a leading article in the issue of the following day. The President's announcement that the representations of the Institute deputation had been disregarded and misunderstood would be received, said the writer, with wonder and regret. At present the Corporation have approved a plan on which the position of St. Paul's Cathedral is not even indicated, and from this it is not unfair to assume that they have not properly considered the relation of the Cathedral to the bridge. The article continues :—

The Institute have decided to petition the Corporation to reconsider their procedure ; and if their petition is disregarded they threaten to oppose in Parliament the Bill by which the Corporation will seek for powers to erect the bridge. But it is to be hoped that this extreme step will not become necessary. We would urge the Corporation and their Committee to remember that this matter is not their private concern, but the concern of the whole country. If they erect another eyesore in London, it will be no excuse that they erect it at their own expense. In this matter, as in all others, they are the guardians of the public interest, and it is their duty, in the public interest, to take the best possible expert advice before they settle upon a plan. The most splendid opportunities in London have been thrown away again and again for the want of just that deliberation which the Institute is urging upon the Committee. Business committees in England seem to be by nature impatient of all æsthetic considerations ; and the result of their impatience is usually a blunder, which is only discovered and regretted when it cannot be remedied. The Committee in this case cannot pretend that the members of the deputation from the Institute do not know what they are talking about. If they disregard the advice of that deputation, they must do so only on the grounds that they know better themselves, or that æsthetic considerations are of no importance. At present, however, they seem merely to have misunderstood the nature of that advice ; and we may hope that with a better understanding they will change their minds.

Suggested New Charing Cross Bridge.

Referring to the proposal for a new Charing Cross Bridge, in connection with the King Edward Memorial, the *Times* article already quoted says:—

St. Paul's Bridge is not the only new one proposed at the present moment. We hope that serious consideration will also be given to the scheme for a new Charing Cross Bridge in connexion with the King Edward Memorial which a correspondent outlined in our issue of Monday. We notice that the Mansion House Committee have decided only to recommend at present the erection of a statue to King Edward, and will further consider various other proposals for a larger memorial. The proposal of the bridge has this merit, that it would, if carried out, remove a glaring eyesore and inconvenience from the very centre of London and that it could be at the same time very easily and closely associated with the King's memory. In fact, there is no kind of memorial that may so well combine sentiment with utility as a bridge. It may have all the beauty of a triumphal arch, and yet it is not a mere useless ornament like most triumphal arches. The Bridge of King Edward would preserve his memory as the memories of Titus and Constantine are preserved by their Arches in Rome, and for all who might remember the present state of things it would preserve his memory by the most powerful means possible—namely, by the force of contrast. Undoubtedly the scheme would be enormously expensive, but it would also be of extreme and lasting utility ; and there can be little doubt that sooner or later it will have to be carried out. If it were carried out now as a memorial to the King, we may be sure that it would be handsomely executed ; if it is carried out in the future under mere pressure of necessity, it may be executed in our usual makeshift manner ; and in that case London will profit only in convenience, not in beauty. The best memorial to the King will be one that shall increase both the beauty and the convenience of the capital.

Workmen's Conference on Town Planning.

A Workmen's Conference on Town Planning, arranged by Mr. Henry R. Aldridge, Secretary of the National Housing and Town Planning Council, was held at the Institute Galleries on Saturday the 22nd ult. The main object of the Conference was to call attention to the remarkable collection of town-planning drawings, plans, and models on view at the Royal Academy, and to give workingmen and representatives of various societies an opportunity of inspecting them. The chair was taken by Mr. Leonard Stokes, President R.I.B.A., who in a short address of welcome to the Conference said that all architects appreciated the value of the British workmen. What would architects do without the men who produced the buildings for which the architects got the largest share of credit ? Conditions had changed, and he was afraid that workmen now were only allowed to do what they were told, but his experience was that the British workman was always a good class of man, and the architect was grateful to him for the way his work was carried out. Mr. John Burns was to be congratulated on his position, which he had attained entirely through his own hard work and study. The conditions under which the working man had to live were pitiable in many ways, as Mr. Burns knew so well, and he had produced the Town Planning Act with the object of improving them. Therefore, he (Mr. Stokes) suggested that they should do all they could to help forward the movement, because workmen could understand drawings and plans. Mr. Burns said that a mean street made a mean man. Perhaps they also suffered from the fact that mean men often made mean streets, and if they were allowed to do so they would continue in that course. This Town Planning Act would enable the authorities to put the extinguisher on the mean man. There had

been much waste in the spending of the rate-payers' money. If they got rid of sickness, poverty, and crime, or even reduced them by half, they would reduce the workhouses, the asylums, and the prisons by half. Wages were not very high now, and the working man was hard put to it to make both ends meet; it would, however, help him enormously if he could have a healthy home, a healthy wife, and healthy children; and the Town Planning Act would, it was hoped, go some way towards securing at any rate healthy surroundings for them.

Mr. John W. Simpson [*F.*], addressing the meeting, said: The President has set me a commendable example of brevity which I will endeavour to follow. "Time is short," and so is the light of an October afternoon. "Art is long," and you will find a great deal of it in the Exhibition you are about to visit. The art of laying-out either the nucleus of a new city or the extension of an existing one to the best advantage of its population, as regards economy, beauty and health, both now and in time to come, is for want of a better term called "Town Planning." I wish we could find a better term, partly because I have got rather tired of hearing it during the last few weeks, and partly because it does not seem to me to quite suggest its real meaning, which is a very wide one. We of the Royal Institute of British Architects have long been impressed by the public spirit of our colleagues in other countries, notably in America, who have prepared and formulated schemes for the extension and improvement of their native cities. We therefore set up some years ago a Town Planning Committee, whose duty it is to study such schemes, to found affiliated committees in the Provinces, and endeavour to prepare the way for similar schemes in Great Britain. So that, when the Town Planning Act of 1907 was brought forward by the President of the Local Government Board, we were prepared with certain suggestions. These were put before him by a deputation of the Royal Institute, which was received in a most kindly and sympathetic way, and succeeded in obtaining, if not quite all we asked for, at least the valuable privilege of being represented and heard at the enquiries to be held upon proposed schemes of Town Planning by the Local Government Board. Well, talk and criticism are all very well, but we felt that now, thanks to Mr. Burns, Town Planning has become a living thing in this country—though at present very young, and rather bewildered at finding itself here at all—it was time that an object-lesson should be added, so that folk could see what it really is that we are all talking about. That object lesson is the Exhibition which you are to visit this afternoon, the finest—by common consent—which has been brought together in any country: a little "record" for Great Britain. We believe that we have performed a public duty in placing before the local authorities who will have to prepare schemes under the Act, the best information, both historical and actual, which is available in the Papers read during last week's Conference, and the visible results of the experience of others as shown at the Royal Academy. It has proved a rather more costly matter than some of us perhaps anticipated, but I have heard no complaint from our members on that score. Now, as is the case with all conventional phrases, "town planning" has different meanings in different mouths. To the medical officer of health it means sanitation and healthy houses; to the engineer trams and bridges and straight roads, with houses drilled to toe a line like soldiers. To some it means open spaces; to the policeman regulation of traffic; to others a garden plot to every house, and so on. To the architect it means *all* these things, collected, considered, and welded into a beautiful whole. It is his work, the work of the trained *planner*, to satisfy all the requirements I have mentioned, and to create in doing so a work of art. And do not think that this is an unprofitable matter even from the merest business point of view. Nothing is more ruinously wasteful than unregulated growth, whether in nature or a city. It will certainly have to be pruned away, thinned out, or dealt with in suchlike drastic fashion if it is not trained and supervised during its formation; and to cut away slums and open up light and air to them by avenues and open spaces is a very costly and not always satisfactory process, which may be avoided by intelligent anticipation. Then there is another point which is perhaps the most important of all—the tremendous influence upon man, the animal, of the surroundings in which he is bred and passes his life. Ruskin, speaking of the blocks of London houses intersected by railways, said, "It is not possible to have any right morality, happiness, or art in any country where the cities are thus built, or thus, let me rather say, clotted and coagulated. Spots of a dreadful mildew, spreading by patches and blotches over the country they consume. You must have lovely cities, crystallised not coagulated into form—limited in size and not casting out the scum and scurf of them into an encircling eruption of shame, but girded each with its sacred *pomœrium* and with garlands of gardens full of blossoming trees and softly guided streams." You will get no sound morals if you deprive the animal man of those reasonable and healthy pleasures to which he is entitled; and Art aims at giving pleasure in a noble form. "*Non tantum corpori*," said Seneca, "*sed etiam moribus salubrem locum eligere debemus.*"

Professor Geddes said that, despite the beauty of American town sites, when it came to the question of keeping the whole population in health and happiness, America had signally failed, owing to its totally immoral capitalisation. In looking to the health and comfort of the people, Germany led the world and America lagged behind, its working men being in the lowest condition to-day. Frankfort

was regarded as ideal in its town planning; while the River Clyde was the dirtiest in history, the slums of Glasgow the filthiest, there being more drunkenness, overcrowding, and misery in the slums of that city than in any other spot on the planet. Generally speaking, everything in the matter of town planning in the United Kingdom was done in "hugger-mugger" fashion, of which the blocks of Piccadilly were the most characteristic symbol.

The members of the Conference then adjourned to the Royal Academy, where the exhibits were viewed under the guidance of the organiser of the Exhibition, Mr. Raymond Unwin.

Architects and the Royal Institute.

The following letter, signed by the Secretary of the Institute, has appeared in the leading London and Provincial dailies :—

SIR,—May I, through the instrumentality of your influential organ, call the attention of all architects and assistants to the importance of the new departure which the Royal Institute has inaugurated with the object of drawing together into the central organisation every member of the profession throughout the United Kingdom and the Empire, whether now or not yet in practice?

One of the latest acts of our late beloved King was to grant a new Charter with the above object in view, and to create a new class, to be called Licentiates of the Royal Institute.

To this class all professional architects who have been either five years in practice or ten years engaged in the study of architecture are eligible as candidates without examination. Already several thousands have applied for papers, and, as admission to the class is only open until next March, I would urge every architect interested in his profession to make the earliest application for admission. It is the one and great opportunity for securing corporate unity to advance the interests of architecture and of its exponents. The annual payment is but a guinea. This confers many privileges, including the free receipt of the JOURNAL of the R.I.B.A., containing the valuable papers read at the general meetings and illustrations of most interesting work, old and new, all over the world. It gives Licentiates a place of call in London, with access to the library, the best of its kind in the kingdom.

The Institute is only awaiting the enrolment of the Licentiates to make application to Parliament for recognition of all *bona fide* architects, and those who stand aloof are only delaying this application.

Part of the provision of his late Majesty's Charter is to create machinery by which every Licentiate may, if he so desires, proceed to the Fellowship as soon as he is eligible. All assistants who are eligible are assured of a hearty welcome.

It only remains to add that the allied societies of architects all over the Empire are in sympathy with this great movement, and many have taken, and are taking, active steps to further the objects in view.—I am, Sir, yours faithfully,

IAN MACALISTER, *Secretary*.

Preservation of the Auld Brig of Ayr.

Mr. James A. Morris [*F.*], who carried out the architectural work in the preservation of the famous Auld Brig of Ayr, writes that Mr. Hall Blyth's strictures on the bridge during the discussion following Professor Baldwin Brown's Paper on "Town Planning and the Preservation of Ancient Features" at the recent Town Planning Conference, have been widely circulated in the Scottish Press, and asks space in the JOURNAL for an extract from his reply which appeared in the *Scotsman* of the 14th October. Mr. Hall Blyth is reported to have said

"that he was one, if not the chief, of the sinners who had condemned the Auld Brig of Ayr. They were all anxious to preserve ancient monuments if they were beautiful, but that bridge could not be said to be beautiful, artistic, or useful. It had simply been preserved because of the wonderful love his fellow-countrymen had for Robert Burns, who had written a poem about the Auld Brig. This, however, was not the bridge that Burns wrote about. The arch on the north side of the river had been washed away many years ago and had been entirely rebuilt. The bridge as restored was only fit for foot-passengers. Two of the arches were altogether out of line and out of adjustment."

Mr. James Morris, in his reply, says :—

"When the preservation of the Auld Brig was still on the knees of the gods, Mr. Hall Blyth reported that it appeared to him 'quite impossible to save the Brig as it stands at present,' and with ready respect for his engineering skill, one may be permitted somewhat to marvel at his pronouncement. As a matter of fact, the Brig has been preserved as it stood, and well preserved, by engineering skill. In Scotland Mr. Hall Blyth as an engineer holds a position of eminence, and as he was the engineer consulted by the Corporation at the time of the controversy, his statement can scarcely be allowed to pass unchallenged, seeing that it has already been freely circulated by the Scottish Press. Admittedly, not only two arches, but the whole Brig, is out of line —perhaps, in an engineering sense, out of adjustment— but Mr. Hall Blyth should, I think, grant that the straight-edge and tee-square do not hold the only nor the ideal line of beauty, nor yet are they the only canons upon which beauty of line may be established. That the Brig is neither 'beautiful, artistic, nor useful' may be Mr. Hall Blyth's opinion, and he is quite entitled to express it; but when he ventures a further incursion into the realm of fancy, and gravely states that the Brig is not the Brig of Robert Burns, he wanders even more hopelessly than before. Surely Mr. Hall Blyth knows, if he knows anything of the Brig at all, that the northmost arch fell and was rebuilt in 1732-33, and that Burns did not write his poem till 1786. How, then, is it not the Brig about which Burns wrote? Its form is the same, the number and identity of the arches the same, the piers, cut-waters, and approaches are the same; and in the preservation effected, save in a small portion of the parapet and in the part renewal of the defective and modern facing of the piers, it is almost stone for stone the Brig of Robert Burns. It is this point, and this point alone, that touches the Burns interest; hence this refutation."

Extra Sessional Paper, 28th November.

An extra General Meeting (Ordinary) will be held at the Institute on Monday, 28th November, when Professor Cesare Formilli will read a critical and historical paper, illustrated by lantern slides, on the Cosmati mosaic- and marble-workers who were called from Rome to Westminster Abbey to build and decorate the Shrine of Edward the Confessor, the Tomb of Henry III., and other tombs, and to execute the mosaic pavement before the Altar and in the Sanctuary. There will be on view the same day in the galleries of the Institute an exhibition of full-size coloured reproductions of the above works, executed under the direction of Professor Formilli, by order of the Italian Government, for the International Exhibition of Art to be held in Rome in 1911.

Election of Licentiates R.I.B.A.

At the Council Meeting of the 7th inst., the following candidates, having been found eligible and qualified under the Charter and By-laws, were elected Licentiates of the Institute in accordance with the provisions of By-law 12 :—

ANDERSON : Alexander Ellis (Northampton).
ANDREWS : Arthur George (Colchester).
BAKER : Joseph Phillips (Willenhall, Staffs.).
BELLAMY : Franklin Joseph.
BIRD : Ernest Charles Henry (Trichinopoly, South India).
BUCK : Walter Gerard (Sheffield).
CARVER : Ernest Edward (Canada).
COBBETT : Guy Bernard.
COULSON : Richard (Dublin).
CRANE : George Percy.
CRESSWELL : William Thomas.
CROTHALL : Harry George.
DALLAS : James (Birmingham).
DEMPSTER : Stanley Matcham.
DIAMANT : A. St. John.
DOLMAN : William Ledsham (Windermere).
DYBALL : Harvey.
EDWARDS : William Frederick (Birmingham).
FARMER : Harold Quentery (Manchester).
FINCH : William Alexander.
FISHER : Horace Reginald (Swindon).
FLETCHER : Robert Henry (Hull).
FORBES : James (Middlesborough).
FORSTER : Joseph (Carlisle).
GURNEY : Arthur Edward (Poland).
HALL : Edward Ernest.
HASLOCK : William Edwin (Middlesborough).
HOOLEY : Ernest (Long Eaton).
HORTON : Harry (Cannock).
HUXLEY : William Sherrin (Selangor, Federated Malay States).
JAMES : William Herbert.
JONES : John Joseph.
JONES : Wallace Stevens (Bristol).
LAMB : Percy A.
LANCASTER : Percy (Southport).
LANGLEY : Samuel Henry (Leicester).
LLOYD : Bernard Mosley (Birmingham).
LOCKWOOD : William.
MACDONALD : William Roderick.
MARSHALL : Charles Thomas (Newcastle-on-Tyne).
McILROY : David Suttie (Calgary, Alberta, Canada).
McINTYRE : John (Edinburgh).
MERSON : John Bruce.
MOUNTAIN : William John (Bournemouth).
NEWTON : George, jun. (Bournemouth).
O'ROURKE : Horace Tennyson (Dublin).
PALSER : Edwin
PARKER : Sydney Wills.
PATON : James Stanley (Birmingham).
PRICE : Mansfield.
REID : John Andrew (Glasgow).
RIGG : Richard Morton (Penrith).
SAMPSON : Robert William (Sidmouth).
SOUTTAR : James Augustus.
STEEL : John Bothwell (Glasgow).
STEPHENS : J. H. (Bangalore, South India).
STOCKDALE : John Carrington.
TOOMER : Albert John (York).
TWEEDY : William (Newcastle-on-Tyne).
WAKEFORD : Bertie Harry.
WEATHERLEY : Thomas (Bolton).
WRIGHT : Herbert A.

Presentation to Lady Knill.

The Council, on behalf of the Institute, have presented to the Lady Mayoress (Lady Knill) a replica of the Pugin Medal in silver which they award every year to the student who has done the best work on the lines which made Augustus Welby Pugin so well known in English architectural history. This is given as a souvenir of the Town Planning Conference. Lady Knill is a granddaughter of Pugin.

Obituary.

The Rev. Robert Medley Fulford, Vicar of Buckerell, near Honiton, who died on the 16th September in his sixty-sixth year, was at one time a practising architect of considerable repute, and for many years an Associate of the Institute. The following notice from a local paper has been kindly sent by Mr. C. H. Brodie [*F.*], who served his pupilage in Mr. Fulford's office :—A remarkable man in many ways, and a singularly lovable one, was the Vicar of Buckerell, and his death is a great grief to a wide circle of sincere friends and admirers. Tall in stature, and of striking presence, the late Rev. R. M. Fulford had for the last twenty years been an ideal, hard-working, self-sacrificing, and sympathetic country clergyman. Few were aware that the unassuming and humble "parson" had been an exceptionally successful professional man. Some twenty years ago he deliberately gave up a large and lucrative practice as an architect to take Holy Orders and to live through a large portion of the rest of an anxious life upon the modest stipend of a curate. Mr. Fulford was one of several sons of the late Rev. J. L. Fulford, M.A., who for fifty-four successive years was Vicar of Woodbury. This venerable divine was one of the original members of the Exeter Diocesan Architectural Society, which was formed in that city in the early forties, and his name will probably still be remembered as a prominent pioneer during the wave of church restoration that swept over the West Country as elsewhere in England during the second half of the last century. Born at Woodbury on 22nd February 1845,

Robert Medley Fulford from his early youth showed great artistic ability. Hence it was that he was articled by his father to the late John Hayward, of Exeter, the designer of the Albert Memorial Museum, the Diocesan Training College, All Hallows Church, and many other important buildings in that city. He was also for some time with the late William White, F.S.A., of Wimpole Street, W., who was prominently associated with the great Gothic revival. Mr. Fulford afterwards settled in Exeter, during most of the time being identified with church building and restoration. In his early professional career he practically rebuilt the parish church at Colyton Raleigh, and in 1882 erected the fine parish church of St. Matthew at Exeter. Four years later he designed St. James's in the same city. Prior to that he had conservatively restored the parish churches of St. Michael, Pinhoe, and St. Mary, Poltimore; and of St. Thomas à Becket at North Lew. In 1884 he renovated the Church of SS. Margaret and Andrew at Littleham, near Exmouth, in the graveyard of which lie the remains of Lady Nelson, the wife of the victor of Trafalgar. In 1886 he restored St. Mary's, Exbourne, and three years later St. Bartholomew's at Bow. It was by his great artistic genius that much of the beautiful work at St. Andrew's, Kenn, was also carried out. Amongst a number of other churches in the beautifying of which Mr. Fulford was closely identified are St. Saviour's, Torre; St. Mary's, High Bickington; and St. John's, Yarcombe. In works of a secular character Mr. Fulford was equally successful, and many important buildings were erected from his designs. His last ecclesiastical work of note was St. Mark's Church, Torquay. It was whilst in the zenith of his fame as an architect that, against the advice of many friends, he resolved to give up his practice and devote the rest of his life to the Church. In 1891, soon after making his final decision, and shortly after the death of his first wife, he went to Australia, and did duty for a year or two as deacon at Christchurch Cathedral at Ballarat, in the colony of Victoria. Returning to England, he took priest's orders at Exeter Cathedral in 1893, and during several succeeding years did much self-denying and useful work as an assistant curate in his native parish of Woodbury and at Crediton. Afterwards he was for several years Incumbent of St. Andrew's at Grenada, in the Windward Islands. Ten years ago he was appointed Vicar of St. Mary the Virgin, at Hennock, and there he remained the centre of active spiritual life until shortly before his death. Whilst in residence at Hennock he made many most desirable improvements to the church, and greatly enlarged the vicarage. The Dean and Chapter of Exeter in the early part of this year offered him the living of SS. Mary and Giles, Buckerell, and this he accepted; but a few months after, amidst the universal sorrow of all who knew him, he was called to his rest.

The Institute Conversazione.

The Conversazione held by the Institute on the 8th inst. was a highly successful and very enjoyable event. The new Galleries lend themselves admirably to a gathering of this kind. Though at a moderate computation there must have been little short of eight hundred persons present, at no time during the evening did the rooms appear inconveniently crowded. The President, accompanied by Mrs. Stokes, received the company, which included many distinguished guests, in the West Gallery. A selection of music was performed in the East Gallery by Herr Gottlieb's Vienna Orchestra. Refreshments were served in the Library rooms. An Exhibition was specially arranged of drawings and photographs representative of the works of Royal Gold Medallists from 1848 to 1910. The works will remain hung for some weeks, and will be on view during the whole of the time except during the Examinations.

CORRESPONDENCE.

Architecture and Town Planning.

137 *Church Street, Edgware Road, W.:*
2nd November 1910.

To the Editor JOURNAL R.I.B.A.,—

SIR,—One of the main practical points in town planning, the beauty of individual buildings and their harmony of main lines, mass and scale with adjoining work, may be successfully dealt with by the Royal Institute in London by means of medals of merit, money prizes, and perhaps offers of honorary membership, to architects who, in the opinion of the Art Committee, have built the best façades of the year, as in Paris.

Designs should be considered not only on their special merits but on their degree of approach to a preconceived standard, quality, and style that the Art Committee of the Institute or a Committee elected for the purpose could fix for the blocks or streets in question.

If there is anything practical in town planning, some preconceived designs for particular thoroughfares are urgently necessary for a good architectural result, however loose such notions of general design may be. Architects could embody in their designs for new buildings, alignment of main lines, agreement of mass and scale with adjoining work, if such work had received the hallmark of recognition by the Royal Institute. Such co-operation among architects combined with the encouragement that a system of official recognition of merit would give is eminently practical, and deserves the attention of the Council of the Royal Institute.

If the financial aspect of this proposal is in any way terrifying, may I suggest that the Council of the Royal Institute approach the L.C.C. and municipal councils and endeavour to press the

importance of the architectural surveillance, not only of buildings, but of streets, and the desirability of local bodies providing the necessary outlay for their own benefit.—Yours faithfully,

ERNEST J. DIXON [*A.*]

Proposed Central Avenue for London.

149 *Bishopsgate Street Without, E.C.:*
8th November 1910.

To the Editor JOURNAL R.I.B.A.,—

DEAR SIR,—In Mr. Davidge's admirable summary of the Town Planning Conference he states that I propose the formation of an avenue from "Lea Bridge" to Shepherd's Bush Green. He is just four miles out in his description.* The starting point of the avenue in question was where the East India Road crosses the Lea and joins the Barking Road and Victoria Dock Road at Canning Town. From thence the avenue proceeds through the slums of Poplar, Bromley, Limehouse, Stepney, Whitechapel, Spitalfields and Shoreditch, and on to the West in the manner described in the article. The object is two-fold: to open out the slums and to carry the heavy traffic from the docks and riverside to the north of the City so as to avoid the traffic congestion in the central area.—Faithfully yours,

ARTHUR CROW.

* Lea Bridge is in the North-East of London, near Leyton.

MINUTES. I.

At the First General Meeting (Ordinary) of the Session 1910-11, held Monday, 7th November, 1910, at 8.30 p.m.—Present: Mr. Leonard Stokes, *President*, in the Chair; 1 Hon. Fellow, 45 Fellows (including 14 members of the Council), 48 Associates (including 3 members of the Council), 10 Hon. Associates, 23 Licentiates, and numerous visitors: the Minutes of the Special and Ordinary Meetings held 20th June having already been published [JOURNAL, 25th June], were taken as read, and signed as correct.

The Secretary read a letter from Sir Wm. Carington, Keeper of His Majesty's Privy Purse, announcing that the King had graciously consented to become Patron of the Institute and to continue the presentation of the annual Gold Medal for Architecture.

The following candidates, being found eligible and qualified according to the Charter and By-laws, were nominated for election—viz.: As FELLOWS (7): John Cubbon [*A.* 1899] (Manchester); John Walter Little [*A.* 1891] (Tonbridge); Edgar John Pullar [*A.* 1901] (Rangoon); Frederick John Osborne Smith [*A.* 1901]; William Henry Stucké [*A.* 1899] (Johannesburg); Joseph Foster Wood [*A.* 1883] (Bristol); Clyde Francis Young [*A.* 1900]. As ASSOCIATES (53): Colvin Tyler Armstrong [*Special Examination*]; Josias Crocker Beare [*P.* 1900, *S.* 1906] (Newton Abbot); Alan St. Hill Brock [*P.* 1905, *S.* 1906]; Francis Holles Bulmer [*P.* 1905, *S.* 1906]; James Muir Calder [*Special Examination*] (Rochdale); Arthur N. Cantin [*Colonial Examination*, 1909] (New York, U.S.A.); Alfred Edward Catt [*P.* 1897, *S.* 1905]; Henry John Chetwood [*P.* 1902, *S.* 1909]; James Bertie Francis Cowper [*P.* 1906, *S.* 1907] (Manchester); Herbert Cox [*P.* 1907, *S.* 1907]; Harry Royden Dowswell [*Colonial Examination* Montreal); Hylton Basil Elkington [*P.* 1903, *S.* 1906]; William Alfred Masters Fiddaman [*P.* 1903, *S.* 1906]; Thomas Francis Wiltshire Grant [*P.* 1902, *S.* 1907]; William Henry Gummer [*Special Examination*]; William Henry Gunton [*P.* 1909, *S.* 1909]; Alner Wilson Hall [*P.* 1900, *S.* 1905]; Joseph Louis Hampson [*P.* 1899, *S.* 1906] (Blackburn); Frank Henry Heaven [*P.* 1907, *S.* 1908] (Glamorgan); Sidney Thorn Hennell [*P.* 1900, *S.* 1904]; Samuel Woods Hill [*P.* 1901, *S.* 1903]; George Hollins, jun. [*P.* 1903, *S.* 1906] (Manchester); Harold Ridley Hooper [*P.* 1905, *S.* 1907] (Ipswich); Wilfred Hoyle [*P.* 1904, *S.* 1907] (Gravesend); Richard Melvil Fane Huddart [*Special Examination*]; Richard Jacques [*P.* 1904, *S.* 1907] (Harrogate); William Ingram Keir [*P.* 1902, *S.* 1905]; John Harold Kennard [*Special Examination*]; Douglas Chantler Leigh [*P.* 1905, *S.* 1905] (Warrington); Stanley Gage Livock [*P.* 1903, *S.* 1908]; Arthur George Lynham [*P.* 1901, *S.* 1904] (Northampton); Edward Brantwood Maufe, B.A.Oxon. [*P.* 1899, *S.* 1903]; Paul William Mulready [*P.* 1901, *S.* 1907]; Eric George Newnum [*P.* 1907, *S.* 1908]; Basil Oliver [*P.* 1900, *S.* 1902]; Victor Cinatti Batallia Reis [*S.* 1908] (Rugby); Thomas Herbert Rhodes [*P.* 1900, *S.* 1904]; Bernard Robson [*P.* 1904, *S.* 1906] (Scarborough); Herbert James Rowse [*P.* 1906, *S.* 1907] (Liverpool); Hubert Savage [*P.* 1900, *S.* 1906]; Lawrence Alexander David Shiner [*P.* 1902, *S.* 1906]; Hubert Niemann Smith [*P.* 1903, *S.* 1905]; Alan Leslie Snow [*Special Examination*]; Edward Woodhouse Stubbs [*P.* 1905, *S.* 1907]; Thomas Aikman Swan [*P.* 1902, *S.* 1908] (Edinburgh); Samuel Douglas Topley [*Special Examination*]; Horace George Turner [*P.* 1901, *S.* 1908]; Geoffrey Cecil Wilson [*P.* 1903, *S.* 1908]; Ralph Wilson [*P.* 1904, *S.* 1906]; Roland Leslie Wall [*P.* 1906, *S.* 1907]; Frank Coutts Webster [*P.* 1904, *S.* 1905]; Frank Woods [*P.* 1902, *S.* 1905] (Maidenhead). As HON. FELLOWS (6): The Right Hon. Arthur J. Balfour, P.C., M.P.; the Right Hon. John Burns, M.P., President of the Local Government Board; the Right. Hon. Lewis Harcourt, P.C., M.P.; Field-Marshal Viscount Kitchener of Khartoum, G.C.B., O.M., G.C.M.G.; the Right Hon. the Earl of Plymouth, P.C.; the Right Hon. the Lord Redesdale of Redesdale, G.C.V.O., K.C.B. HON. CORRESPONDING MEMBER: Daniel Hudson Burnham, M.A., Ph.D., LL.D., Chairman of the American Commission of Fine Arts (Chicago, U.S.A.). As HON. ASSOCIATES (8): David George Hogarth (Oxford); William Hesketh Lever; John Seymour Lucas, R.A.; W. M. Flinders Petrie; John Singer Sargent, R.A.; Marion Harny Spielmann, F.S.A.; William Hamo Thorneycroft, R.A.; Lawrence Weaver.

The President tendered the thanks of the Institute to all who had helped to make the recent Town Planning Conference a success, mentioning particularly the Chairman and Members of the Executive Committee, the Royal Academy, the Lord Mayor and Corporation of the City, and Mr. Raymond Unwin, whom the Council had that afternoon, as a mark of their appreciation, elected to the Fellowship of the Institute.

Having referred finally to the eminent services rendered by Mr. John W. Simpson [*F.*] in organising the Conference and acting as Secretary-General, the President tendered him the Council's especial thanks, and on behalf of the Institute asked his acceptance of an inscribed inkstand in old Sheffield plate as a small token of their esteem and regard.

Mr. Simpson, in responding, referred in appreciative terms to the various members who had assisted in the organisation of the Conference.

The President having delivered the OPENING ADDRESS of the Session, a vote of thanks, proposed by Sir George Reid, and seconded by the Earl of Plymouth [*H.A.*], was passed to him by acclamation.

The proceedings terminated, and the Meeting separated at 10 o'clock.

NOTES ON THE ARCHITECTURAL HISTORY OF LINCOLN MINSTER FROM 1192 TO 1255.

By Francis Bond, M.A.Oxon. [*Hon. A.*] and William Watkins [*F.*].

IN 1898 I had the honour to read a Paper before the Institute on the fallibility of documentary evidence in establishing the chronology of the English Cathedrals.* I was not then able to adduce as an instance the history of the building of St. Hugh's Choir in Lincoln Minster; like the rest of the world, I accepted at that time the time-honoured opinion that what we see now is that of which St. Hugh of Avalon laid the foundations in the year 1192.† For some years, however, I have suspected that the high vaults of the choir are not of the time of St. Hugh; and a cursory examination of the structure at the time of the visit of the Royal Archæological Institute to Lincoln in the summer of 1909 convinced me that both the choir and its transepts were originally unvaulted. My views as to these vaults were set forth briefly at a meeting of the Royal Archæological Institute in the Minster. For the time, through pressure of other work, I was unable to prosecute the inquiry; but last March I went into the matter more fully, and not only convinced myself that St. Hugh's work originally had no high vaults, but was led to form other views equally subversive of traditional opinions. Further investigations kindly made at my request by Mr. William Watkins [*F.*], of St. Edmond's Chambers, Lincoln, only strengthened my disbelief in the correctness of the accepted theory as to St. Hugh's work. Here, perhaps, the matter might have rested; for though I had the evidence of my own eyes as to the drastic changes that had been made in St. Hugh's Choir, I hardly dared trust it. But when Mr. Watkins went into the inquiry himself systematically and independently, and was unable to explain the facts which he observed on any other hypothesis than that here set forth, then at last, feeling that great weight attached to his reasoned opinions as a practising architect, long resident in Lincoln and familiar with the fabric of the Minster, I set about the preparation, with his assistance, of this Paper.

F. B.

In the views that will be advanced as to the history of the Minster, it is not to be denied that against them is ranged a solid mass of authority. A vast literature has gathered round the work of St. Hugh—the first example, as it was held, of "pure and undefiled Gothic" in this country; this is almost wholly against us. Many who have made a study of the Minster have recorded their opinions in print. Those of M. Viollet-le-Duc will be found in the *Gentleman's Magazine*, May 1861; those of Sir Gilbert Scott in *Archæologia*, xlvii., 45; the *Reports of the Associated Architectural Societies*, xii., 186; and *Archæological Journal*,

* Journal R.I.B.A., 21st November 1898.

† "A.D. 1192. Jacitur fundamentum Ecclesiae Lincolniae," *Irish Annals of Multifernan.*

xxxii., 229, those of Mr. Edmund Sharpe in the same *Reports*, ix., 179, and xii., 190; and in the *Lincoln Excursion* of the Architectural Association in 1871; those of Mr. J. H. Parker in *Archæologia*, xliii., 73, and xlvii., 41; and in the seventh edition of Rickman's *Gothic Architecture*, 233; those of Precentor Venables in the *Reports of the Associated Architectural Societies*, xviii., 88; and *Archæological Journal*, xxxii., 229, xl., 159 and 377, and xliv., 194; as well as in the account of Lincoln Minster in Murray's *English Cathedrals*. The documentary evidence has been collected by Rev. J. H. Dimock in the *Metrical Life of St. Hugh*, published in the *Roll Series*, and in the *Reports of the Associated Architectural Societies*, ix., 196. In vol. vi. of Dugdale's *Monasticon* are valuable plates of the Minster. Mr. Charles Wild published 16 plates with an introduction in 1819; among them are internal elevations of single bays of the choir, transept and nave. In the *Reports of the Associated Architectural Societies*, xxviii., 95, are drawings of the Norman Church by the late clerk of the works, Mr. J. J. Smith. A large plan was published in *The Builder*, 21st May, 1887; but by an unfortunate oversight in the references to the hatchings all the work of the first period is attributed to the second, and *vice versa*; also the chapter house and its flying buttresses are wrongly marked as of the same date. A good section of the choir appears in Professor Charles Moore's *Development and Character of Gothic Architecture*. Papers also appeared in the Lincoln volume of the Archæological Institute, 1848, by Mr. F. C. Penrose, on the system of proportions in the nave; by Mr. C. R. Cockerell, on the ancient sculpture of the Minster, and by Mr. C. Winston, on the painted glass. There are also papers on the Minster by Mr. James Essex in *Archæologia*, iv., 149; and by Rev. George Ayliffe Poole in the *Reports of the Associated Architectural Societies*, iv., 21. Almost all these writers seem to have been of opinion that what they saw in the choir, with one possible exception, was of the time of St. Hugh. The one exception was the weird clerestory vault. This gave qualms to many; so much so that in 1874 a sort of amateur Royal Commission was formed to inspect and report on it. It consisted of eminent experts—Sir Gilbert Scott, Mr. J. L. Pearson, consulting architect to the Dean and Chapter, and Mr. J. H. Parker; its findings were set forth by Mr. J. H. Parker in *Archæologia*, xlvii., 41. The experts came to the conclusion that "the vault of the choir is subsequent to St. Hugh's time," but that the vaults of the aisles of the choir were original (p. 234); also that the vaults of the choir transepts are of the original work unaltered (*ibid.*). In 1881 Mr. J. H. Parker wrote that * "the vault of St. Hugh's choir was either added or rebuilt after the fall of the central tower." This date is probably correct; unfortunately, in writing that the choir vault may have been rebuilt, Mr. Parker showed that he failed to recognise that the choir was originally unvaulted. In the *Archæologia*, xliii., 38, Mr. Parker wrote: "The tower in 1237 fell upon *the vault of St. Hugh's choir* and crushed it completely": in this passage Mr. Parker makes it quite clear that in his opinion St. Hugh's choir was originally vaulted. This also was the opinion of Sir Gilbert Scott; for in the *Archæological Journal*, xxxii., 235, he says that "the choir vault was reconstructed after the disaster of 1237 *upon the original springers*"; and in 1883, in *Archæologia*, xlvii., that "the vaulting of the choir is of subsequent date, but was not only always intended, but had in all probability been erected; though it was afterwards damaged by the fall of the central tower, and consequently reconstructed." However, Mr. Parker considerably changed his ground, and states he had "clearly ascertained that all the vaults, *i.e.* including those of the aisles, are insertions of subsequent periods," and that the aisles as well as the choir had merely wooden roofs. In this conflict of opinion there is evidently room for a reconsideration of the whole question, which in this Paper is attempted.

* *Rickman*, 7th edition, p. 159.

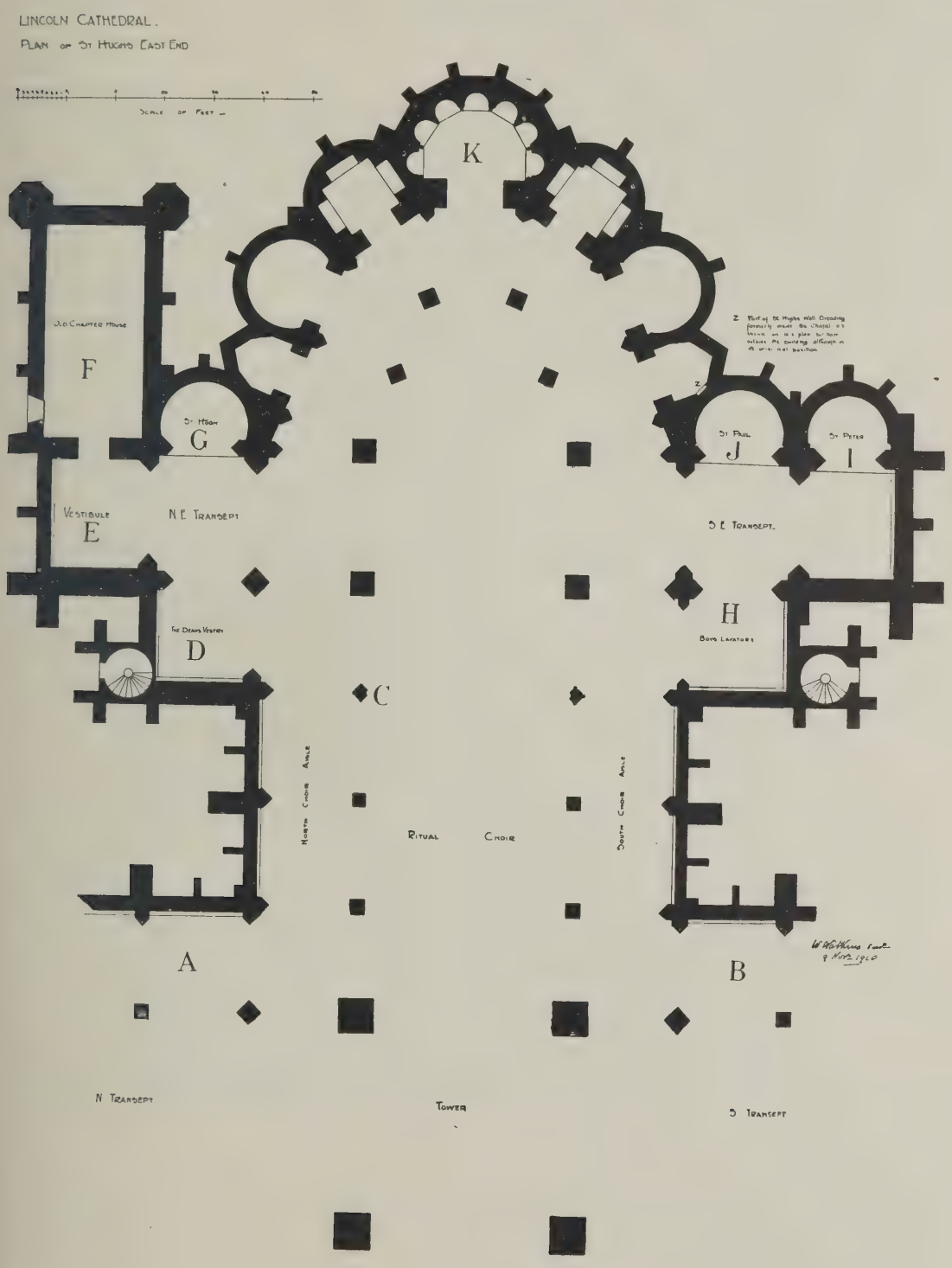

LINCOLN CATHEDRAL.
PLAN OF ST HUGHS EAST END
SCALE OF FEET
K
OLD CHAPTER HOUSE
F
ST HUGH
G
ST PAUL
J
ST PETER
I
VESTIBULE
E
N.E. TRANSEPT
S.E. TRANSEPT
THE DEANS VESTRY
D
BOYS LAVATORY
H
C
NORTH CHOIR AISLE
RITUAL CHOIR
SOUTH CHOIR AISLE
A
B
N TRANSEPT
TOWER
S TRANSEPT

FIG. 1.

Before we go further, it will be well to list the work which has been attributed to St. Hugh. It consists (1) of an apsidal presbytery and ambulatory surrounded by seven chapels, the ground-plan of which will be discussed later on [fig. 1]. This presbytery was demolished, c. 1255, to make room for the Angel choir.*

(2) Then come the choir transepts, each now containing two apsidal chapels to the east. Counting from the south, those of the south-east transept are the chapels of St. Peter and St. Paul; of those of the north-east transept the southern is attributed to St. Hugh,† while the northern chapel was rebuilt by Essex in 1772, and will be cited as Essex's chapel.

(3) The central tower has been rebuilt, but there probably remain the cores of St. Hugh's two eastern piers.

(4) He also built each of the bays of the aisles of the central transept adjacent to the central tower, and probably dedicated to St. James and to St. Edward the Martyr; and may have laid out the whole of the two central transepts up to the sills of the lower windows.

St. Hugh began his work in 1192, and died in 1200. Then there was an interlude of three years. William of Blois was bishop from 1203 to 1206—then came another interlude of three years; it will be convenient to cite the work of 1200 to 1209 under the name of William of Blois. His work probably comprised the building of the central tower and completion of the central transept, less its vaults; and some abutment to it to the west. His work differs but little from that of St. Hugh, and no doubt was by the same architect, Geoffry de Noiers. Hugh of Wells was bishop from 1209 to 1235; to him may be attributed the building of the chapter house, and most of the nave, less the vaults; also of the lower lateral portions of the west front. Robert Grostête was bishop from 1235 to 1253; and, after the fall of the central tower in 1237,‡ rebuilt the tower and repaired or rebuilt the adjacent four bays of the choir, nave, and transept; also, as we believe, he put up all the high vaults and those of the chapter house, built the two upper stories of each end-bay of the choir transepts, built the Galilee porch, and completed the west front, Morning Chapel and Consistory Court.§ The Angel choir was commenced in or soon after 1255; whence it is to be inferred that the whole of this work was completed by that date.

Before speaking of the high vaults, it will be convenient to examine the low vaults, viz. those of the choir aisles, the northern bay of the north choir transept, the chapels on each side of the choir transepts, and those of St. James and St. Edward Martyr in the aisles of the central transept. Evidence will be adduced that originally no vaults were intended by the original architect, Geoffry de Noiers. First look at what is known as St. Hugh's arcading —the double arcading which decorates the walls of the choir aisles, the end walls of the choir transepts, the Dean's Chapel, and the boys' vestry, and the two chapels of the central transept adjacent to the tower. In front is a trefoiled, at the back a pointed arcade. Now the former

* It is convenient to retain this, the popular name for it. Really its two western bays formed the presbytery; the bay next to the east, on the other side of Essex's reredos, was the Saint's Chapel of St. Hugh, where stood his shrine, occupying a space of 8 feet by 4 feet. This chapel corresponds to those of St. Thomas at Canterbury and St. Edward at Westminster. The next bay to the east was the procession path. The easternmost bay contained an altar to St. John the Baptist, under the great east window, and here "was sung the daily Mass of the Blessed Mary the Virgin of Lincoln"; whence ultimately it came to be called "the chapel of the Blessed Virgin Mary."

† This chapel was built probably by St. Hugh himself, and if so cannot originally have been dedicated to him. The attribution appears to come from C. Wild, who in 1819 (p. 28) says: "This chapel was founded by Canon William Thornaco, and was dedicated to St. Hugh." According to Canon Wordsworth, Wild got this from an anonymous plan of 1771.

‡ It is convenient to speak of a bishop or an abbot building such and such a church or part of a church; but it is not to be supposed that he had anything to do with the design or the details of construction any more than had William of Wykeham at Winchester or Alan of Walsingham at Ely.

§ Wild calls the Consistory Court the Chapel of the Holy Trinity and Virgin Mary.

is completely independent of the latter,* and therefore there is a presumption that it is a later addition. It is no more than a presumption, for it might merely be that the masons, for their own convenience, worked the two arcadings separately on the bench. But if the inner

FIG. 2.—SOUTH WALL OF SOUTH CHOIR TRANSEPT.

pointed arcading be examined, it will be found to occur with the same mouldings on certain walls and without trefoiled arcading in front of it. Now, why should there be at some points single, at others double, arcading? The answer is that originally none of the walls had more than single

* Sir Gilbert Scott admitted that there are two independent walls for about 10 or 12 feet from the ground; but that after that level the stones pass through the wall as usual.—*Archæologia*, xlvii. 44.

arcading, and that the trefoiled arcading was not added till it had been determined to vault the aisles and chapels, and that even then it was only added where the walls were thin; where the walls were thick, it was not added—*e.g.* on the west side of the end bay of the north choir transept [fig. 1, E]. In support of this it may be pointed out that St. Hugh's choir was set out two squares wide, each 21 feet 6 inches, and that the junction of the squares occurs precisely in the centre of St. Hugh's piers. Now if another square of 21 feet 6 inches be set out on either side, it will be found not to end in the centre of the present aisle walls, but in the centre of the aisle walls as they would be were the present trefoiled arcading removed. Without this front arcading, the aisle walls have a thickness of only 2 feet 6 inches, which would hardly be adequate to carry a vault. It would seem that the building, not only of the aisle walls, but also of the piers, had proceeded for some distance before it was determined to vault the aisles. Of these piers the least altered are the third from the west on either side of St. Hugh's choir [fig. 1, C]. On the side of the main walls of the choir facing the stalls are now marble vaulting shafts. These, however, cannot be part of the original work; for, as will be seen by reference to fig. 5, they would have occupied the centre of each of the narrow bays of the choir, and would therefore have passed in front of a triforium opening and a clerestory window. It is true that in the space beneath the flooring of the stalls, there remain the plinths and part of the moulded bases of vaulting-shafts. These, however, do not form part of the rubble wall on which St. Hugh's piers rest; it has been cut into to receive them. It follows that the rubble wall being of St. Hugh's time, the vaulting-shafts are later. They would doubtless be inserted when the high vault was erected, and not till then; they are shown in fig. 6. Up to that time the pier would have only three marble shafts—one to the east, one to the west, and one facing the aisle. About 1380 the present stalls were put up, and then, no doubt, the lower part of the vaulting-shafts was cut away, and made to rest on corbels which may well be of the date of the stalls. The pier, therefore, having no shaft on this face, probably was to have no shaft on the side facing the aisle, being originally planned to have only two marble shafts, one on its east, one on its west side. When it was decided to vault the aisle, an additional shaft had to be added to it to carry the transverse and diagonal ribs of the aisle vault. Again, a Gothic vault is one constructed with the aid of ribs; and is easier to construct if the ribs are equidistant. But in much of St. Hugh's work there are ribs which can only find a support by wandering off to the right or left; this is especially so in the north aisle of the choir. Again, each cluster of ribs in an aisle springs on one side from one of the piers of the pier arcade and ought to descend on to the buttressed wall opposite. But in the north aisle one of the rib-clusters descends on to the jamb of a window. Again, where a rib-cluster springs from between two windows, these windows, for stability, should be spaced so as to allow of plenty of masonry between them and room for a buttress outside. But in all St. Hugh's work, and up to the end-bays of the aisles of the central transepts, the two lancet windows in each bay of the aisles are set so close together that there is barely room outside for a buttress at all, and that has to be of excessive thinness. Again, vaulting-shafts have to be set up in the aisles to carry the ribs of the vault, and, for stability, they should be set close to the wall or form part of it. But in St. Hugh's work the aisle walls have a double plane of arcading, and in front of that a bench-table; and then come the vaulting-shafts in front of or cut into the bench table, forming an obstruction in the aisles, and losing strength and stiffness by being detached from the walls. (The same improper construction is employed in the north aisle of the nave, but is set right in the south aisle, which thus seems the later of the two.) Moreover, the vaulting-shafts being an afterthought, it was necessary here and there to mutilate the double arcading of the aisle walls in order to get them in; this occurs several times in the choir aisles. Nowhere is the awkwardness of the disposition of the vaulting shafts more clearly seen than in the south-western corner of the boys' vestry, where there are no fewer than three shafts, one in front of the other—viz. those of the vault, the outer

arcading, and the inner arcading respectively. Again, the intermediate buttresses of the aisles are not bonded into the walls, as they would be if they were part of the original work. Also the vaulting-shafts of the aisles do not centre with the main buttresses (see fig. 1). Whatever may be thought of the strength of each link of the evidence adduced above, cumulatively they certainly seem to show that the aisles and chapels were originally not set out to be vaulted, and that the piers had been commenced and the walls built up for some distance before vaulting was decided on, and the work already done was remodelled and supplemented.

We now turn to the high vaults of St. Hugh's choir transepts and choir, and ask whether they are original. The type of vault mainly employed in the high vaults, *i.e.* those spanning the clerestories of the choir transepts and of the central transepts, as well as in the westernmost bay of the choir, is the sexpartite.* Now the choir of Canterbury had been set out for sexpartite vaults as early as 1175; there would be nothing surprising, therefore, if the sexpartite vaults at Lincoln were of the time of St. Hugh. But there are other important peculiarities in the vaulting. Ridge ribs are employed in the high vaults of the choir and the central transepts, as well as in the southernmost bay of the south choir transept; and the date 1192 is improbably early for such ribs. Moreover, the strange high vault of the choir has not only ridge ribs, but also tiercerons;† it is practically impossible that this combination of ridge rib and tierceron can have been designed so early as 1192. Again, if the vaults were planned in that year, their ribs would be of simple section. This they are not. For in all of them—the vaults of the choir, the choir transepts and the main transepts, as well as the chapter house and nave—the roll with triple fillet is employed; a moulding which is very common in the last half of the thirteenth and the first half of the fourteenth century, but which we certainly should not expect to find in common use in 1192.‡ Again, in the vaults of the aisles of the choir and in the chapels of the choir transepts, which are undoubtedly of St. Hugh's time, none of the ribs are moulded on the chamfer plane; whereas rib moulds on the chamfer plane occur in all the high vaults of the cathedral. There can be little doubt that all the high vaults of the choir and its transepts were built long after St. Hugh's time, probably some forty years later.

But it may be argued that even if St. Hugh's clerestories were not vaulted till later, they were from the first designed for a vault; otherwise what becomes of the contention that his work is "Gothic, pure and undefiled"? Well, consider what a builder does when he decides that his church shall have high vaults as well as vaults over the aisles. He not only decides beforehand what type of vault it shall have—quadripartite, sexpartite, lierne, or what not—and what kind of pier each type requires; but he arranges his piers, buttresses and windows with reference to the vault, and moreover elaborates a system of abutment to withstand its thrust. The whole church has to be designed from the vault downwards. Now, in 1192, Gothic vaulting was not very far advanced; anyone building at that day would surely so arrange his ground plan as to make his task easy. Well, the task of vaulting is facilitated if each bay of the vault is made an accurate rectangle; it is made more difficult if the rectangular form is deviated from. But if *The Builder* plan be inspected, it will be found that many of the bays are anything but accurate rectangles; this is especially so in the central transepts. Again, it is very desirable that all the bays should tally in dimension, so that

* In the aisles the vaulting is mainly quinquepartite; but this is merely sexpartite vaulting with one intermediate rib necessarily omitted, because there was a pier-arch on one side of each bay, and no support was to be had on this side for an intermediate rib.

† Illustrated in *Gothic Architecture in England*, pp. 324, 327.

‡ Examples of the triple-fillet from the pier arches of Lincoln nave, and of the choir of the Temple Church, London, consecrated in 1240; the vaulting ribs of Rievaulx choir, and the windows of Stone Church, near Gravesend, and Guisborough choir, are illustrated in *Gothic Architecture in England*, pp. 668, 675, and 699.

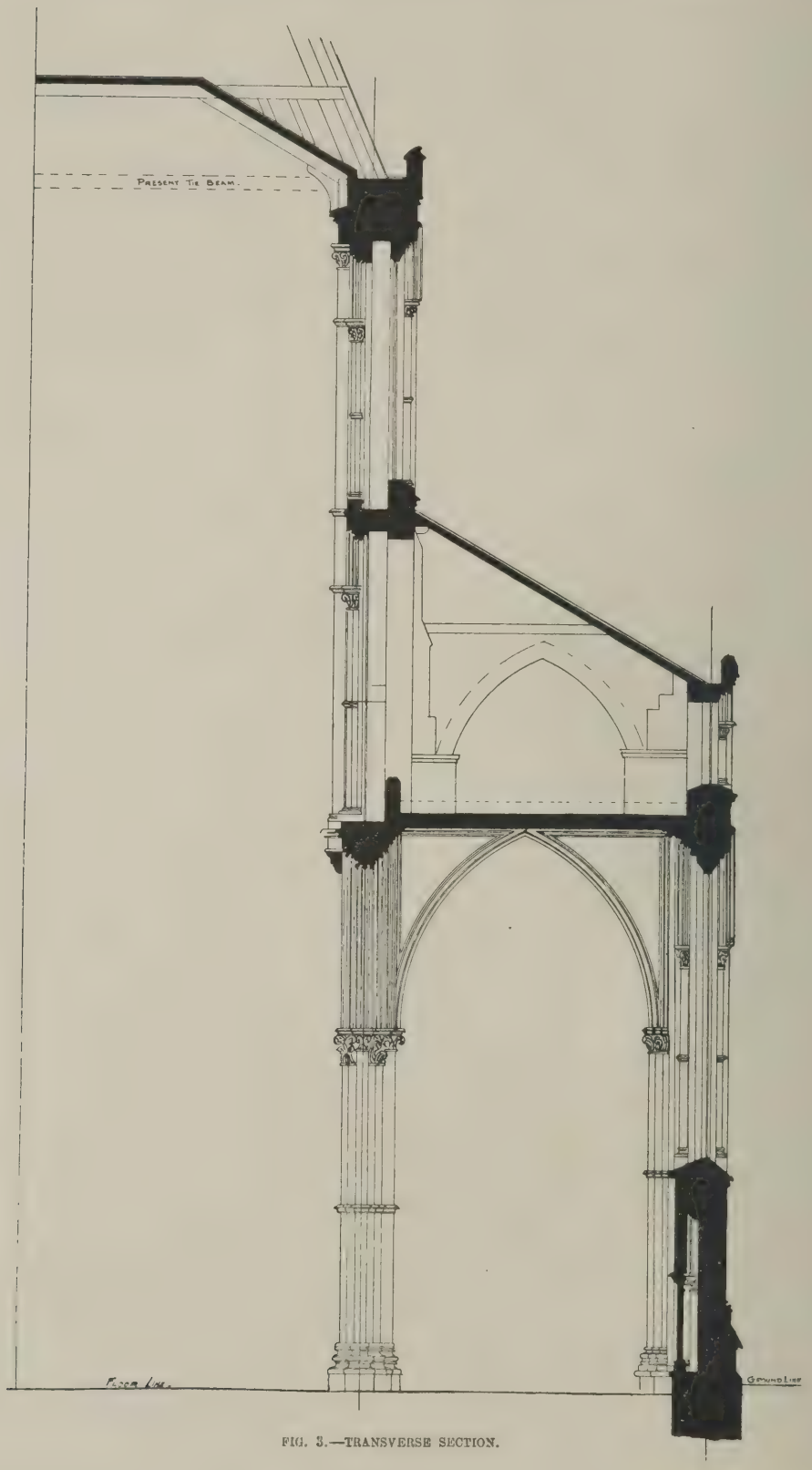


FIG. 3.—TRANSVERSE SECTION.

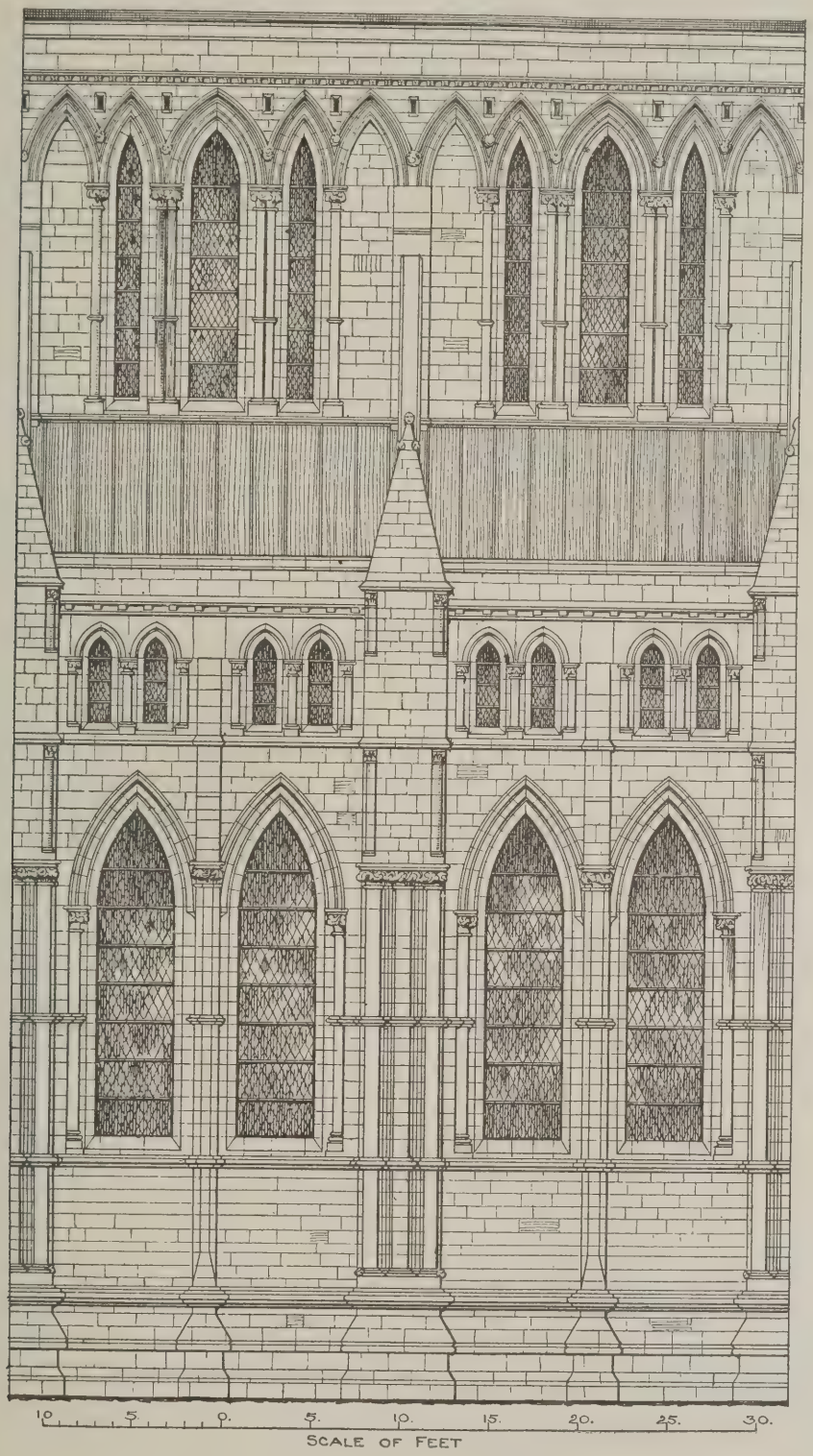


FIG. 4.—EXTERIOR OF ST. HUGH'S CHOIR.

the centering used in one bay may be re-used in the next, and so on. But in the aisles and transepts of St. Hugh's choir the bays vary greatly in area. Again, if a builder determines to vault his clerestories, he has to bear in mind that there will be several hundred more tons to be supported than if he were content with a wood roof only: he ought, therefore, to make his piers massive and his walls thick. But the third pier from the west in the choir—the only one which retains its original form—is by no means massive; and the aisle walls of the choir are thinner than those of the central transepts and the nave, the latter of which was undoubtedly intended from the first to be vaulted.* Again, one of the most difficult problems in the early Gothic churches was to get an adequate amount of light; and he who would build a high vault had to take care not to obstruct his clerestory windows. Now in the choir transepts and central transepts this is provided for; each bay contains only two lancet lights, and readily admits of sexpartite vaulting. But in the choir the clerestory bays, except the westernmost, each contain *three* lancet lights; moreover, each bay is narrow. When, therefore, the clerestories of the choir were vaulted, the windows were considerably obstructed. It was probably to minimise the obstruction as much as possible that the queer design of the present choir vault is due. In the nave the builder got rid of the difficulty in quite a simple fashion by increasing very considerably the breadth of the bays.† But the most serious matter was to provide adequate abutment for the high vault. This is done in the choir by a most elaborate combination of clerestory buttresses, aisle buttresses, flying buttresses, and transverse arches spanning the triforium chamber.‡ Let us examine each of these [fig. 4]. As for the main buttresses of the aisles, for the greater part of their height they are plainly original. This is proved by the accurate way in which their strings fit the bands and strings of the shafts and sills of the windows and the ground course. But their upper portions were plainly built at the same time with the flying buttresses, and these latter did not exist in the original work. The proof of this is that, though the fliers now butt on to a clerestory buttress, where there is now a clerestory buttress, there was originally, as will be seen later, a clerestory window. The flying buttresses could not butt on to glass, and therefore cannot, any more than the upper parts of the main aisle buttresses, belong to the original work of St. Hugh. Moreover, if the flying buttresses are compared with those of the choir of Canterbury, Chichester and New Shoreham, it will be seen that they are of much too advanced a type of design for the year 1192. That the flying buttresses are not part of the original work was the opinion of Sir Gilbert Scott and his colleagues, who "decided that the flying buttresses and the upper parts of the (aisle) buttresses connected with them are later additions, and that the intermediate buttresses (of the aisles) are also additions." § They also decided that "the arches crossing the triforium chamber transversely between the aisle vault and its roof were prepared for and intended from the first, but were not actually constructed till somewhat later, and then of a reduced thickness." This may be true as regards the footings of the transverse arches shown in section iii. The experts, however, seem not to have noticed that just beneath the aisle roof there was originally, as will be shown later, an open niche at this spot, and consequently at first there was not a clerestory buttress; and if there was no clerestory buttress it follows that neither was there any transverse arch.‖ Again, if the exterior of the choir be compared

* On the north side a beginning was actually made of a nave considerably lower than the existing one, and when the north aisle of the existing nave was commenced this bit of walling was allowed to remain. It is to be seen in the Dean's garden at the junction of the central transept and nave. It will be noticed that the western wall is much thicker than the eastern fragment.

† See Wild, plate 3, for internal elevations of the nave and choir.

‡ The abutment system is probably borrowed from Canterbury choir, where there is the same combination of external flying buttress and internal transverse arch.

§ *Archæological Journal*, xxxviii., 235.

‖ Fig. 3 is a transverse section of the original choir; but, to elucidate the text, a clerestory buttress and transverse arch are shown, though as a matter of fact they were not added till long afterwards.

with that of the nave* it will be seen that the clerestory windows of the latter are set considerably lower than the parapet. This is not so in the choir. The object of so doing in the nave was by the additional courses of masonry to weight the clerestory walls against the thrusts of the vault. The fact that this precaution was not adopted in the choir points to the inference that it was intended to have a wood roof only. Another curious little fact tells the same tale. On the north side of the nave, as shown in Mr. Sharpe's drawing,† slits to ventilate the roof timbers occur in groups of four. There are no "ventilators" where they would be blocked by the vault. In the choir, on the other hand, they are continuous, and many are actually blocked by the vault [fig. 4]. Evidently the nave was meant to be vaulted; the choir was not. The fact, already mentioned, that originally there were no vaulting shafts, tells the same tale. Other considerations of a general character point in the same direction. The choir is unusually broad. As measured by Mr. Watkins, it has, like the nave, a breadth of $40\frac{1}{4}$ feet between the clerestory walls. It is surpassed only by York, which has a span of 45 feet, but which has not a stone vault. Ripon nave, also unvaulted, has a span of 40 feet. It is not till we reach the French choir of Canterbury that we find a stone vault with a span of 39 feet. *Prima facie*, it is improbable that any one in England would dream of vaulting a span of $40\frac{1}{4}$ feet so early as 1192. Moreover, St. Hugh's choir, before it was remodelled, belonged, as will be shown, to the Yorkshire school of Gothic. With this school high vaults were at no time popular, and least of all in the earlier Gothic of the north of England. Look at the choir, too, from an artistic point of view. Innumerable are the complaints made about the "crushing lowness" of St. Hugh's choir, which has unfortunately conditioned the design of the Angel choir also. At present the height of the choir up to the ridge of the vault is but 74 feet, which, with a span of $40\frac{1}{4}$ feet, gives intolerable proportions. But the interior would be far loftier if there were no vault, especially if the roof, as in the naves of Peterborough and Ely, were of the trussed rafter type; its collar-beams might rise much above the wall plate. In that case the interior would be lofty and impressive, and the proportion of height to span as satisfactory as it is now the reverse. It is hardly conceivable that the architect who designed the tall and slender façades of the transepts can have intended to have an interior of such wretched proportions as are seen in the present choir [fig. 3].

Now turn to the elevations. It may be said at once that St. Hugh's Church was almost as different from the present one as chalk from cheese. To recover the original design, from the exterior must be removed the intermediate buttresses of the aisles, the upper portions of the main buttresses, the flying buttresses, and the clerestory buttresses; and in place of each of the latter must be inserted a broad clerestory window [fig. 3]. From the interior must be removed the high vaults, the casing of the piers, and the whole of the triforium arcade. An additional broad clerestory window must be inserted where now the high vault springs; and for the present triforium, with its single low arcade, must be substituted two lofty continuous arcades with a longitudinal passage running between them. The timber roofs, now hidden by vaulting, will be visible, and the interior will be lofty, at least 80 feet high, and of good proportions. As for the ground story, its pier arches are unchanged; but most of the piers have lost shafts, and have been strengthened by the addition of stout columns, with broad fillets, of the yellow Lincoln stone. Precisely the same process has been employed in increasing the bulk of the piers which carry the central tower. The marble shafts of the tower piers may well come in the main from the piers of the original central tower; and the new thickened piers of the tower carry new broad arches. In the central transept all the piers seem to have been rebuilt, for they all contain columns of late character, like those in the choir piers and those of the central tower: stout

* Illustrated in *Gothic Architecture in England*, p. 115.

† On the south side most of the "ventilators" have been blocked, perhaps when the fourteenth-century parapet was built.

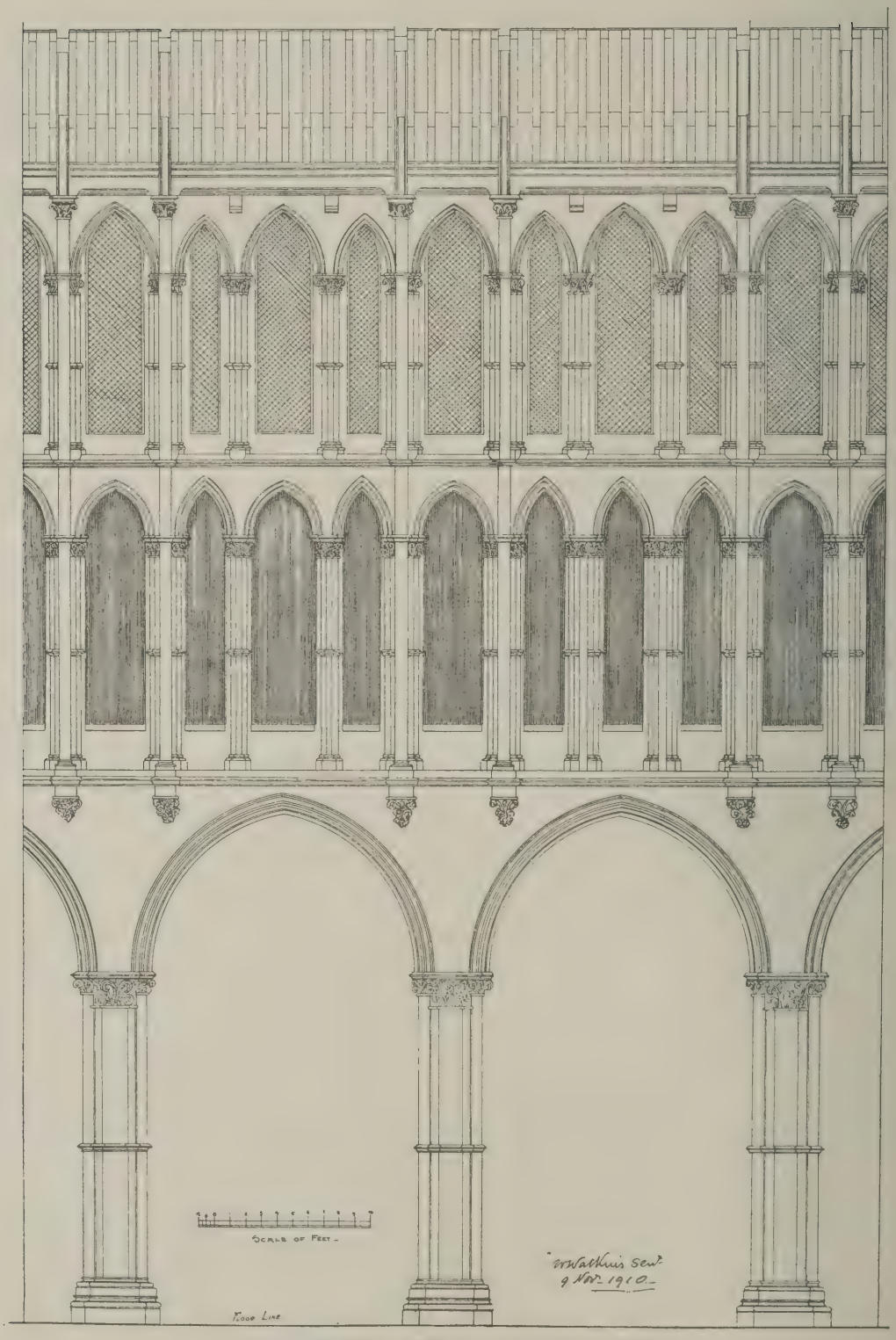


FIG. 5.—INFERENTIAL RESTORATION OF THE RITUAL CHOIR.

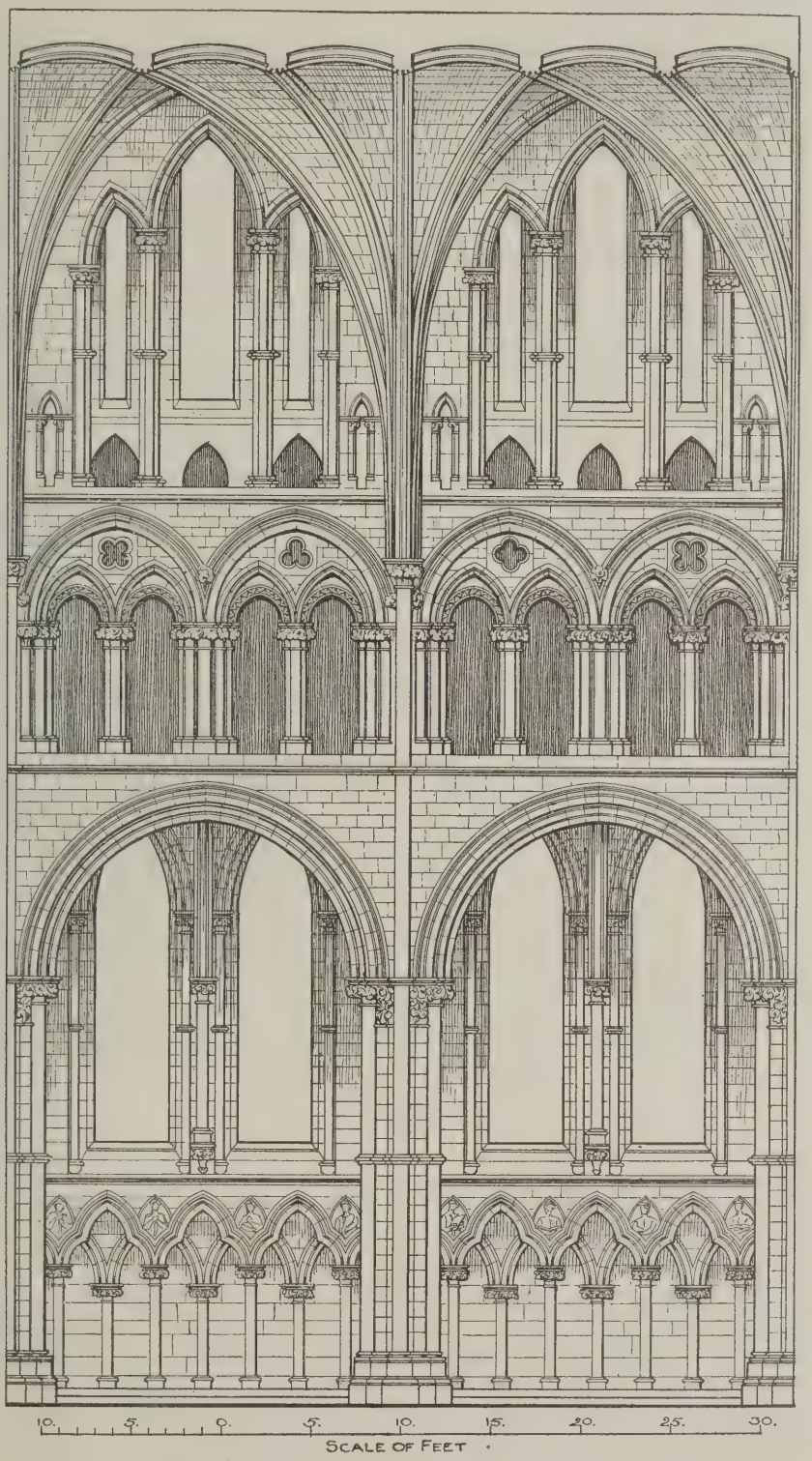


FIG. 6.—INTERIOR OF ST. HUGH'S CHOIR BEFORE 1380.

coursed columns of Lincoln freestone with broad fillets. That this is so is borne out by a curious fact, viz. that in several cases in the piers of the central transept the original shafts with their foliated capitals remain intact; but to give them due proportion to the capitals of the added freestone columns a plain shaped block about $3\frac{1}{2}$ inches deep has been added between the stems of the original foliage and the necking below. The westernmost bay of the clerestory was originally as wide as the rest of the bays, and no doubt contained three lancet lights; but when the tower arches were made much thicker, this bay was narrowed so much that there was only room for two lights, and it had to be vaulted differently from the other bays.

The most extraordinary change is that which took place in the triforium. It is hardly to be expected that the explanation of this now to be set forth will find ready credence. We can only plead that we arrived at it independently; that it seemed to us for a long time wildly improbable, but that the facts have to be accounted for in some way, and we can find no other explanation which fits them. What puzzled us completely at first, and what ultimately led to our view as to the remodelling of the triforium, was the presence of three little apertures at the foot of the windows in each bay of the clerestory. They are well shown in fig. 6, but from the pavement of the choir cannot be seen. They have, therefore, either been missed by visitors to the Minster, or, with Sir Charles Anderson, have been regarded as one of the "freaks" of Geoffry de Noiers. But builders do not spend time and money in perpetrating freaks, at any rate not when they lessen the stability of the fabric as these do. And in addition to these there are others. If one passes along the clerestory passage—which few care to do, as it is unrailed—one finds in the same plane as the three smaller openings another larger opening behind the spring of the vault. In all cases it is blocked up, but with masonry only 4 inches thick. The other three openings pierce through the wall (see the photograph, fig. 7)* just below the roof timbers of the triforium chamber, as did the big aperture also originally. At present it is blocked outside by a clerestory buttress built against it. The three smaller openings—we will take leave to call them "pigeon-holes"—are 2 feet 6 inches wide; the piers between them are also 2 feet 6 inches wide; the soffits of their arches are 1 foot 9 inches broad; the large "pigeon-holes" are 4 feet broad. The apexes of all the four "pigeon-holes" are at the same level, but the clerestory passage sinks two steps in front of the large "pigeon-hole." This seemed inexplicable at first, but the explanation is simple enough. There are above head bonding blocks which tie the springers of the vault to the back wall. But for the lowering of the passage one would strike one's head against the bonding blocks in passing behind the springers of the vault. The "pigeon-holes" occur *in situ* on both sides of the choir transepts (except the end bays, which, as will be shown later, are work of a much later period), on both sides of the choir, but are blocked up in the westernmost bay on each side, which was largely rebuilt after the fall of the central tower in 1237, and along the east side of the two central transepts. They also exist on the *west* side of the central transepts, but here they are no longer "pigeon-holes," but are 8 feet high and descend to the floor of the triforium wall passage. The purpose of the "pigeon-holes"—first one large, then three small ones—at first completely puzzled us, but we arrived separately at the same conclusion—Mr. Watkins by comparing certain churches in Italy, and myself by comparing Ripon nave as originally built†—that

* For the photographs in this paper we are indebted to Mr. S. Smith, Steep Hill, Lincoln, whose collection of photographic postcards numbers over 500, and includes not merely general views but an immense amount of detail, *e.g.* the foliated caps, the angels in the triforium of the Angel Choir, the wood bosses of the cloister vault, &c. Of no cathedral, here or abroad, has such a valuable series of illustrations been produced. Mr. Smith will send the whole or any set of postcards for selection. I make no apology for giving Mr. Smith the publicity of the JOURNAL. If he had done this work in France he might have received the *Légion d'honneur*, as did M. Trompette for smaller services in Rheims Cathedral.—F.B.

† See Sir Gilbert Scott's restoration of the old unaisled nave, obtained by putting together the fragments which still remain at either end of the present nave; reproduced in fig. 12 from the *Archæological Journal*, XXX.

all four originally descended to the floor of the triforium, forming four plain and unmoulded arches. In front of these would be a similar set of arches, more ornate however, being flanked by shafts with moulded arches, bases, and with foliated capitals. Our conjecture was strengthened by the fact that precisely such a combination exists on the eastern side of the easternmost bays of the north and south triforium of the nave (it is well seen from the opposite triforium bay of the choir); the only difference is that in the bay of the nave triforium there is only a passage between the double arcade, whereas in St. Hugh's work there was also behind it a triforium chamber [fig. 8]. Precisely as in Ripon nave, narrow and wide bays alternated [fig. 12]. At Lincoln each narrow bay contained an opening 4 feet wide, and each wide bay

FIG. 7.—EAST WALL OF SOUTH TRIFORIUM OF CHOIR.

three openings, each 2 feet 6 inches wide. It was doubtless to throw all the light possible through these openings that St. Hugh made his aisle walls so lofty that he could insert two pairs of lancet windows in each bay of the upper part of the aisle wall [fig. 4].* Of the "pigeon-holes" our explanation is that they are fragments of St. Hugh's triforium arcade, which, with the exception of the acutely pointed heads, was taken out and replaced by the present triforium arcade without taking down the clerestory or the roof. This seems an amazing thing to do, and at first staggered us. But other *tours de force* may be called to mind. In the fourteenth century all the thirteenth-century arches in Carlisle choir were left standing, but

* These pairs of small triforium windows are found not only in the whole of St. Hugh's work but up to the ends of the central transepts. It is significant that they do not occur in the southernmost bay of the southern choir transept.

were supplied with new piers. In York transept a broad arch and a narrow arch were interchanged without taking down the triforium, clerestory, or roof; other instances might be quoted. And though the job would look hazardous, it would be quite within the scope of a careful contractor nowadays. It could be done, and that without danger to the fabric, by trussing with strong timber the openings at each side of a single bay of the triforium, and then fixing transverse needles through the "pigeon-holes" at the spring of each of their arches, with trussed supports at each end. This would make the wall of the clerestory above quite secure; so that a whole bay of the triforium could be taken out and a new one inserted without risk to the surrounding work. It may be added that when the new church of St. Swithin at Lincoln was built by Mr. James Fowler, of Louth, it was found that before the roof could be put on the piers had been crushed owing to the rocking of the nave walls by the wind; and it was found necessary to truss the pier arches and to insert new piers. This was successfully done. That St. Hugh's triforium at Lincoln was dealt with in some such fashion in the thirteenth century appears not to admit of doubt. It may be urged that the arch moulds of St. Hugh's triforium as we see it now are of the simple type which is seen in his work in the ground story; and that if the triforium had been rebuilt say *c.* 1250 the arch moulds would not be of the type of 1192, but of more elaborated type, *e.g.* such as is seen in the triforium of the nave. The answer is that the triforium arcade would be rebuilt as far as possible with the old materials. The arch moulds are merely St. Hugh's arch moulds set in a different fashion; arch moulds, marble shafts, foliated capitals, moulded capitals, bands, and bases could be, and no doubt were, re-used. But putting detail aside, and apart from the fact that the "pigeon-holes" can be explained on no other supposition, it is a fact that on a bright day any one standing in St. Hugh's triforium chamber can see that the masonry on either side of the "pigeon-holes" is quite different from that below and superior to it. The line of demarcation occurs sharply at the foot of the "pigeon-holes"; above it all is St. Hugh's work, below all is of later date down to the triforium floor. (See the photograph, fig. 7.)

If any still are incredulous, turn to the clerestory. On a sunny day last September, when passing along the backs of the high vaults of the choir and the choir transepts, it was possible to distinguish the outlines of a complete set of clerestory windows, all blocked,* one between each pair of vaults. A ladder and lantern were lowered into one of the pockets of the vault, and it was possible to ascertain exactly the position and breadth of the blocked window below. The apex of the window rose to the sill of the adjoining "ventilators" [fig. 4], and was precisely level with the apexes of the existing lancet windows of the clerestory. The width of the window was nearly 3 feet 6 inches, thus being of the same width as the existing central lights of each bay of the clerestory. Owing to the meeting of the vaults at this point it was not possible to probe down to the sill of the window, but the measuring-rod gave a height of a little over 12 feet from the apex of the window downwards. Since the existing clerestory windows are 15 feet high, it is likely that the blocked window extended some 3 feet lower down behind the vaulting, its lower portion now buried in the masonry of the vaults. Drawn out on paper [fig. 4] this means that in the portions of clerestory wall now abutted by flying buttresses, and which are now decorated by two panels of arcading, there was originally no clerestory buttress or flier, but a single broad panel containing a lancet window of the same breadth as the larger windows in the clerestory. On examining the clerestory wall outside from the aisle roof,† it was seen moreover that the masonry is not of the orderly character shown in Mr. Sharpe's drawing [fig. 4], but is put together of all sorts of blocks, evidently not as they had been brought from the quarry and the

* Mr. Parker had seen those of the eastern transepts, but he styles them "the heads of lancet-shaped panels." What he meant by that we do not know.—*Archæologia*, xlvii., p. 42.

† This can be seen with the aid of a glass if the southern clerestory of St. Hugh's choir be examined from the high road.

bench, but old blocks, largely small, re-used. Only the jambs of the narrow lancets appeared to be original; the masonry between each pair of narrow lancets had evidently been taken out and reset when for the window was substituted a clerestory buttress. The conclusion seems inevitable that for every three windows there now are in the clerestory, originally there were four; in fact, it was almost a continuous sheet of glass, and with the well-lit triforium must have made the choir far brighter than it is at present. It should be noticed also that the broad blocked window of the clerestory is correlated to the broad blocked "pigeon-hole" below in the original fabric of the triforium; the existence of either practically connotes the existence of the other. Again, internally the spandrils of the clerestory wall are perforated with a sort of plate

FIG. 8.—WESTERN TRIFORIUM OF CENTRAL TRANSEPT.

tracery of trefoils and quatrefoils*—surely a remarkable feature to appear so early as 1192. Evidently the clerestory wall has been largely rebuilt, and when the rebuilding was going on the opportunity was seized to beautify it with trefoils and quatrefoils such as abound in the triforium arcade of the nave, which was already completed. This appears to be the strange story of the clerestory. If it be accepted, the still stranger story of the triforium may be accepted also.

What was the motive for the conversion of the double arcade of St. Hugh's triforium into a single one and for the remodelling of the clerestory? A change involving so great an expendi-

* In the drawing of the internal elevation of the choir in Sharpe's *Seven Periods*, reproduced on p. 111 of *Gothic Architecture in England*, and in fig. 6 of this Paper, the wall of the clerestory is wrongly drawn. Till lately it was covered with plaster. It was only when the plaster was removed that the trefoils and quatrefoils were opened to view.

ture would hardly have been incurred from artistic motives only. There must have been some serious constructional reason at the bottom. That can hardly have been anything but the decision to insert vaults beneath the wood roof. For high vaults Geoffry de Noiers had made no provision. His clerestory was an almost continuous sheet of glass. His triforium also was, similarly, a continuous open arcade. Moreover the triforium was of skeleton construction. It consisted of two thin walls separated by a wall passage. The designer of the vault may well have hesitated to poise his vault on these two independent walls, and have considered it indispensable to substitute the single and more solid triforium wall which we see now. Of the old triforium, however, he would preserve as much as he could—viz. the apexes of the arches of the old inner arcade; it was not necessary to remove these, for he had arranged for his vault to start below their springs. As to the design adopted in the new triforium, it is evidently borrowed from the magnificent nave*; it is one of the instances—rare except in the fourteenth century—where a deliberate attempt was made to gain harmony and unity by assimilating new to old work. The trefoils and quatrefoils of the new triforium arcade and those of the clerestory are plainly derivatives from the ornamentation of the triforium of the nave.

The alterations in the clerestory were on a much less extensive scale than in the triforium; internally, what we see from the pavement, other than the vault, is largely St. Hugh's work, except in the westernmost bay of the choir. The triforium arcade, on the other hand, was wholly remodelled. The work seems to have been pushed on with great haste; and there is a marked difference between the masonry around the "pigeon-holes" and the work below, as the photograph shows [fig. 7]; in the southern triforium of the choir several of the trefoils and quatrefoils of the spandrels of the arcade are cut in the rudest and clumsiest way possible. Another curious evidence of haste and carelessness is that in the triforium chamber the lower part of each clerestory buttress, though it was built inside the chamber and out of the reach of rain, has its weatherings throated to throw off rain: apparently a hurried order was given to the masons to prepare weatherings for clerestory buttresses, and they were not told which part of the buttress would be above the aisle roof and would require throatings, and which would be under the shelter of the roof and would not. Very deplorable, too, are the freestone columns, destitute of capitals, which were inserted to strengthen the piers of the choir; while the "pound of candles"† in each of the westernmost bays of the triforium of the choir is simply atrocious. Evidently the choir was badly wanted, and the orders were to push on with the work with the greatest possible speed; and to this everything was subordinated.

* Precentor Venables acknowledged that "the alterations in the triforium of the choir and of the transepts exactly agree with the style of the nave." Unfortunately he believed that the nave design was based on that of the choir, whereas the opposite is the case.—*Archæological Journal*, vol. xl., pp. 378, 385.

† Perhaps these were but temporary insertions till the new tower should have settled to its bearings, and were meant then to be removed, an intention never carried out.

(*To be concluded in the next issue.*)

REVIEWS.

VASARI.

The Life of Giorgio Vasari. By Robert W. Carden, A.R.I.B.A. Large 8o. Lond. 1910. *Price* 16*s. net.* [*Lee Warner, publisher to the Medici Society.*]

This is a book which was well worth the doing, and doing well, and we concede at once to the author that, as a whole, he has done it very well. Giorgio Vasari is a household name the world over, and Mr. Carden has gone far to make him a household intimate. He starts with the great initial advantage in his subject, of a well-known figure, whose personal entity, however, has never been fully portrayed, and whose life not only covers a supremely interesting period, but whose intended revelation of its manifold intimacies and contacts, with greater and more imposing personalities than his own, has been a self-revelation of the most vivid order.

We all know, and I hope love, Vasari's Lives, but our interest in that invaluable book has been, I imagine, chiefly and generally in its subjects rather than its author; in the work, in the doings and sayings, the successes and the failures of the wonderful crowd introduced to us, rather than in the admirably garrulous historian of the group.

Vasari has been to most of us little more than the showman of his inimitable procession. We have been apt to overlook his claims to be remembered as painter and architect. Mr. Carden, albeit, treating him somewhat patronisingly, thoroughly establishes his claims to a record, at any rate, of honourable mediocrity and of undeniably prodigious industry. He seems indeed to make out a much better case for Vasari than he at all intends. Though he laughs at his vanity and pretentiousness, he shows him as naïvely vain and honestly pretentious. Though he somewhat impugns his courage in flying before the plague, and consistently avoiding the horrid front of war, he makes it evident that in his work his courage knew no bounds. He was ever ready, no matter how busy, to undertake tremendous and simultaneous tasks in architecture, in painting, or in pageantry. We find him in Florence in 1564, occupied at the same moment with half a mile of bridge corridor linking the Palazzo Vecchio with the Pitti, with the myriad details of the decoration of the route for the wedding procession of Francesco de Medici and Giovanna of Austria, and with the decorative completion of the great Sala, whose painted ceiling of extreme elaboration and enormous wall pictures crowded with a thousand figures were more than enough to claim the full time and attention of the most gifted and industrious artist. And so throughout his career he stuck at nothing, he was afraid of nothing, in the way of artistic undertaking. His energy was inexhaustible, his industry colossal. Though mentally, perhaps not richly, endowed, he possessed the supreme gifts for achievement of any sort, of absolute conviction, of unshakable self-conceit. Mr. Carden portrays his character well—on the one side, his inherent mediocrity, his bourgeois tone of mind, his childish vanity with its concomitant huffiness; on the other, his ingenuity, his perseverance, his loyal service and loyal friendships, his family affection, and his saving grace of humour. All these qualities are fully evinced by his letters, as well as by his comments in the Lives. He was intensely human was Vasari, naïve and astute, timorous and bold; a kindly clubbable sort of man, obviously well liked by those who knew and employed him, though, obviously also, regarded by many of them as something of a noodle. If, however, you may know a man by his friends, it must be conceded that Vasari had friendships which would have honoured the best. The conspicuous instance, of course, is Michelangelo, whose letters to Vasari leave no room for doubt as to the actual intimacy, and to whom the latter seems to have been a sort of artistic Boswell. If, however, we are to compare Vasari to any Briton, he is really much more comparable, in character and quality of mind, to the immortal Samuel Pepys, always omitting the amorous levity so frankly displayed by the diarist. Pepys and Vasari had much in common, the mixture of naïve credulity and sceptical astuteness, the kindly vanity, the humour, the love of display, the warm friendliness, and family piety. And if there is kinship in their type of character, there is also similarity in the debt we owe them both. Both have portrayed for us with inimitable simplicity the greatest and most notable of their contemporaries. Both have left us an invaluable picture of their times, and surely both, in spite of their follies and weaknesses, or perhaps a little on account of them, have earned a warm posthumous affection which they are never likely to lose.

Mr. Carden is nowhere more interesting than where he deals with Vasari's love of his native Arezzo, of his house building and pious glorification of his family chapel, his acquired estate, and his little country gentleman's interludes of rustication. This all sounds the human note, and brings the good Giorgio closer to the understanding and nearer to the hearts of this generation of week-enders.

Mr. Carden has made a good and pleasant book, without grace of style, yet thoroughly readable, and giving every indication of much research and thorough honesty of compilation. What appears to be a fear of repetition in reference to events once stated, occasionally tends to the confusion of the reader, and we should like to suggest to the author, for the future editions which we hope to see, an entire revision of the most inadequate index and the insertion of successive marginal dates.

EDWARD WARREN, F.S.A. [*F.*].

SIR LAWRENCE ALMA-TADEMA.

The later work of Sir Lawrence Alma-Tadema, O.M., R.A., R.W.S. By Rudolf Dircks. (The Christmas Number of The Art Journal.) Price 2s. 6d. net. [Virtue & Co., 7 City Garden Row, City Road.]

The Christmas number of *The Art Journal* has appeared in the form of a brilliantly written and beautifully illustrated monograph on the later, and in some respects more important, works of Sir Lawrence Alma-Tadema. Published as a sequel to a former review of the artist's life and work, Mr. Dircks, than whom no one is better qualified to discuss the essential characteristics of Sir Lawrence's art, has given, in the present annual, a comprehensive, analytical, and critical study of the creative power and genius of one of the most scholarly painters of the day, whose productions are thus of exceptional educational value. For example, as the author of the monograph points out, Sir Lawrence's pictures have already been largely instrumental in causing classic art and classic customs to become familiar to more than one generation of our fellow-countrymen.

Indeed, Mr. Dircks does not overstate the case in saying that Sir L. Alma-Tadema, perhaps to a greater extent than any other painter of his time, has made "the realisation of ancient architecture, and, in a large measure, the ancient life of Greece and Rome, a fireside matter." But although the artist's intimate knowledge of classic art has been liberally expressed in many justly admired pictures, yet, in addition, his special gift for constructive architectural composition has also been utilised, on occasion, in connection with the production of plays requiring a scenic rendering of ancient times.

And so, at various epoch-making periods in histrionic art, Sir Lawrence's scholarly correctness of form and detail and the archæological accuracy of his architectural knowledge have been available for presentation to the public through the medium of the late Sir Henry Irving, Sir H. Beerbohm Tree, and Mr. F. R. Benson.

Excellent examples of the artist's powers in an altogether different field of art are to be seen at the R.I.B.A. in the form of portraits of three past Presidents, viz.: John Whichcord (painted in 1882); Alfred Waterhouse (1891); and George Aitchison (1900).

In recalling the fact that most of Sir Lawrence's portraits are those of close personal friends, Mr. Dircks describes them as being depicted by the artist in "a certain genial spirit of intimacy," and he quotes the latter as saying with regard to one of them, viz. the Aitchison portrait, "I did not paint the professor, I painted my friend."

The carefully selected illustrations—over fifty in number—which include reproductions of some of the artist's finest works, emphasise the justice of Mr. Dircks' appreciative, albeit discriminating and critical, remarks on the admirable result of the artist's busy life.

A chronological record of the 400 pictures painted by Sir L. Alma-Tadema, between the years 1851 and 1910, is a useful and interesting feature of this excellent Art Annual, upon the production of which both author and publishers are to be congratulated.

ALFRED W. S. CROSS [*F.*].

THE PAVIORS' COMPANY.

History of the Worshipful Company of Paviors. By Charles Welch, F.S.A. Privately printed for the Worshipful Company of Paviors, 1909.

This is another welcome volume giving an excellent account of a City company, and Mr. Charles Welch, F.S.A., is to be congratulated upon his work, which is a companion volume to his *History of the Pewterers' Company*. It is to be regretted that several of the City companies have not issued similar volumes, compiled from their records; but a history such as the one under consideration should act as a reminder to them to follow a good example.

There is one rather important omission: no mention is made of the fact that all the records are no longer owned by the company; they are the property of the Corporation of London, and deposited in the Guildhall library, which also possesses a large amount of literature concerning other City companies—information which cannot be found at the British Museum or any other library.

The earliest record of the Paviors' Company bears the date 1597, and the history is well recorded by documents until the year 1845. After that date, no meeting was held for forty years. Eventually a conference was held at the Guildhall on 8th May, 1889, fresh rules were drawn up, and the company was resuscitated. A livery was granted by the Court of Aldermen on 15th May, 1893.

The Company is now in a flourishing condition, and this is due in no slight degree to the popular clerk, Mr. W. Phené Neal, who was appointed about five years ago. The Court has recently been twice enlarged, and there is provision on the Livery for architects and surveyors. The Paviors' Company should be of special interest to members of those professions, and any application made to the Clerk by a member of the R.I.B.A. would have most favourable consideration.

SYDNEY PERKS, F.S.A. [*F.*].

9 Conduit Street, London, W., 26*th November* 1910.

CHRONICLE.

Proposed New By-Law.

The President (Mr. Leonard Stokes), at the General Meeting last Monday, explaining the Council's reasons for proposing the introduction of the new by-law of which notice had been given, stated that the existence of such a provision in the Institute By-laws might possibly enable them to get some reduction in the rates, if not entire exemption. He therefore moved on behalf of the Council that a by-law in the following terms be submitted for the approval of the Privy Council, viz.—

> "That the Royal Institute shall not make any dividend, gift, division, or bonus in money unto or on behalf of any of its members."

The resolution having been seconded by the Hon. Secretary and carried, the President stated that, in accordance with clause 33 of the Charter, it would come up again for confirmation at a subsequent meeting.

New Regulations for Architectural Competitions.

At the same meeting the President, in accordance with the notice printed on the Agenda, formally presented the new draft Regulations for Architectural Competitions which had been approved by the Council and issued to members with the last number of the Journal. The document was as follows:—

Regulations of the Royal Institute of British Architects for Architectural Competitions.*

It is assumed that the object of the Promoters is to obtain the best design for the purpose in view. This object may best be secured by conducting all Competitions upon the lines laid down in the following regulations, which have been framed with a view to securing the best results to the Promoters with scrupulous fairness to the competitors.

Members of the Royal Institute of British Architects and Allied Societies do not compete excepting under conditions based on these regulations.

Compliance with the following regulations (*A*) to (*F*) is considered to be essential:—

(*A*) There shall be in every Competition one or more fully qualified professional Assessors, to whom the whole of the designs shall be submitted; the awards to be made in strict adherence to the conditions formulated in each particular case.

(*B*) No Promoter of a Competition, and no Assessor engaged upon it, nor any employee of either, shall compete or assist a competitor, or act as Architect for the proposed work.

(*C*) Each design shall be accompanied by a declaration, signed by the competitor, stating that the design is his own personal work, and that the drawings have been prepared under his own supervision. A successful competitor must be prepared to satisfy the Assessor or Assessors that he is the *bona fide* author of the design he has submitted and that he possesses the necessary qualifications for the appointment of Architect for the work.

(*D*) The premiums shall be paid in accordance with the Assessor's award, and the author of the design placed first by the Assessor shall be employed to carry out the work, unless the Assessor shall be satisfied, upon some objection being raised to the employment of the author of the selected design to carry out the work, that such objection is valid, in which case the author of the design placed next in order of merit shall be employed. The setting aside of the Assessor's award for any other reason constitutes a breach of faith on the part of the Promoters.

(*E*) If no instructions are given to the author of the design selected by the Assessor or Assessors to proceed within twelve months from the date of the award, or if the proposed works are abandoned by the Promoters, then he shall receive payment for his services in connection with the preparation of the Competition drawings of a sum equal to 1¼ per cent. on the amount of the estimated cost, and if the work is subsequently proceeded with the 1¼ per cent. previously paid to him shall form part of his ultimate commission.

(*F*) The selected Architect shall be paid in accordance with the Schedule of Charges sanctioned and published by the Royal Institute of British Architects.

1.—The Promoters of an intended Competition should, as their first step, appoint one or more professional Assessors, architects of established reputation, whose appointment should be published in the original advertisements and instructions. The selection of an Assessor should be made with the greatest possible care, as the successful result of the Competition will depend very largely upon his experience and ability.

The President of the Royal Institute of British Architects is always prepared to act as honorary adviser to Promoters in their appointment of Assessors.

2.—The duties of an Assessor are as follows:—

(*a*) To confer with and advise the Promoters on their requirements and on the question of cost and premiums to be offered.

(*b*) To draw up instructions for the guidance of competitors and for the conduct of the Competition, incorporating the whole of the clauses of these regulations which are applicable to the particular Competition.

Note.—It is essential in drawing up the Instructions to state definitely which of the conditions must be strictly adhered to, under penalty of disqualification from the Competition, and which of them are of a suggestive character.

(*c*) To answer queries raised by competitors within a limited time during the preparation of the designs, such answers to be sent to all competitors.

* The Regulations are not intended to apply to small limited private competitions.

(*d*) To examine all the designs submitted by competitors and to determine whether they conform to the Conditions and to exclude any which do not.

(*e*) To report to the Promoters on the designs not so excluded and to make a selection of those he considers the best and award the premiums in accordance with the Conditions.

3.—Competitions may be conducted in one of the following ways :—

(*a*) By advertisement, inviting architects willing to compete for the intended work to send in designs. FOR COMPETITIONS FOR PUBLIC WORKS OF GREAT ARCHITECTURAL IMPORTANCE THIS METHOD IS RECOMMENDED.

(*b*) By advertisement, inviting architects willing to compete for the intended work to send in their names by a given day, with such other information as they may think likely to advance their claims to be admitted to the Competition. From these names the Promoters, with the advice of the Assessor or Assessors, shall select a limited number to compete, and each competitor thus selected shall receive a specified sum for the preparation of his design.

(*c*) By personal invitation to a limited number of selected architects to join in a competition for the intended work. Each competitor shall receive a specified sum for the preparation of his design.

Note.—Where a deposit is required for supplying the Instructions it shall be returned on the receipt of a *bona fide* design; or, if the applicant declines to compete and returns the said Instructions within a month after the receipt of replies to competitors' questions.

4.—The number, scale, and method of finishing of the required drawings shall be distinctly set forth, and they shall not be more in number, or to a larger scale than necessary to clearly explain the design, and such drawings shall be uniform in size, number, mode of colouring, and mounting. As a general rule a scale of 16 feet to 1 inch will be found sufficient for plans, sections, and elevations, or in the case of very large buildings a smaller scale might suffice.

Unless the Assessor advises that perspective drawings are desirable, they shall not be admitted.

5.—No design shall bear any motto or distinguishing mark; but all designs shall be numbered by the Promoters in order of receipt.

6.—A design shall be excluded from a Competition—

(*a*) If sent in after the period named (accidents in transit excepted);

(*b*) If it does not substantially give the accommodation asked for;

(*c*) If it exceeds the limits of site as shown on the plan issued by the Promoters, the figured dimensions on which shall be adhered to;

(*d*) If the Assessor or Assessors shall determine that its probable cost will exceed by 10 per cent. the outlay stated in the Instructions, or the estimate of the competitor, should no outlay be stated. If the Assessor or Assessors be of opinion that the outlay stated in the Instructions is inadequate, he or they shall not be bound in the selection of a design by the amount named in such Instructions, but the question of cost shall nevertheless be a material element in the consideration of the award;

(*e*) If any of the Conditions or Instructions other than those of a suggestive character are violated;

(*f*) If a competitor shall disclose his identity or attempt to influence the decision.

7.—It is desirable that all designs and reports submitted in a Competition, except any excluded under Clause 6, shall be publicly exhibited after the award has been made, which award shall be published at the time of exhibition.

The usual R.I.B.A. Scale of Charges for Assessing Competitions, whether by jury or otherwise, is the sum of Thirty Guineas, plus one-fifth per cent. upon the estimated cost of the proposed building.

THE HON. SECRETARY (Mr. Henry T. Hare) having moved the adoption of the Regulations, the President said that they would be put to the Meeting paragraph by paragraph and voted upon separately.

The first paragraph was agreed to as printed.

Mr. W. H. ANSELL [*A.*], speaking on the second paragraph, asked whether this was to be taken as an instruction definitely to all members that they must not compete if these conditions were not fulfilled?

Mr. H. SAXON SNELL [*F.*] suggested that it should read : "Members are advised not to compete."

THE PRESIDENT pointed out that the Regulations were to be sent to promoters, and it was sufficient to tell them that members do not compete excepting under conditions based on these Regulations.

The second paragraph was agreed to as printed.

Mr. EDWIN T. HALL [*F.*], referring to the following sentence, "Compliance with the following Regulations (*A*) to (*F*) is considered to be essential," suggested that, as this was to be an instruction to promoters, it should read : "The conditions of a competition should contain the following Regulations (*A*) to (*F*) as essential."

THE HON. SECRETARY suggested the form, "The essential conditions of a competition are the following Regulations (*A*) to (*F*)."

Mr. HALL : That is merely an inversion of the sentence. I think it is desirable to give a direction, and this could be done by saying, "The conditions of a competition shall contain the following essential Regulations (*A*) to (*F*)," or something to that effect.

THE PRESIDENT : I think Mr. Hall's amendment is a sound one, and should be accepted. The actual wording can be left to the Council.

The amendment was agreed to.

Mr. H. HEATHCOTE STATHAM [*F.*], with regard to Regulation (*A*), said he thought the phrase "There shall be in every competition" rather vague; it did not quite convey what was intended to be said. He proposed it should read : "There shall be appointed for every competition."

Mr. W. HENRY WHITE [*F.*] seconded, and the amendment was carried.

Mr. H. SAXON SNELL [*F.*] said he believed he was right in saying that the words at the end—viz. "The awards to be made in strict adherence to the conditions formulated in each particular case"—had been omitted by the Committee after considerable discussion. The words were redundant, for the same thing was stated, though in different words, in the note to clause 2, after (*b*). If the words were to go in (*A*) they ought to add in brackets, "See note to clause 2 (*b*)."

THE PRESIDENT : The note to clause 2 merely says that "the conditions must be strictly adhered to" by competitors, which is rather a different thing.

Mr. H. SAXON SNELL : No; an alternative as to the conditions is given in clause 2 : it qualifies what the conditions are to be. Certain conditions are to be absolute, and others are to be merely suggestive.

THE PRESIDENT : It says in one place that the award is to be made on certain conditions, and in the other place that certain conditions to be followed are merely suggestions—which are two distinct matters.

Mr. ANSELL : As this document is to be issued to the

general public, should not some explanation be given of the words "fully qualified"? The term is capable of a great many different meanings to the ordinary man outside. If it is meant that the assessor is to be a member of the Institute, why not say so? As the profession is not a closed profession, it is difficult to say who is a fully qualified professional assessor and who is not.

Mr. HALL: All words of this sort are more or less surplusage. "One or more professional assessors" would meet the case.

THE PRESIDENT: Then the promoters may call in a man from the next street.

THE HON. SECRETARY: Although you cannot exactly say what a fully qualified man is, there can be no possible harm in the words. It rather tends to deter promoters from taking a man as assessor who is not a qualified practitioner.

Mr. SAXON SNELL: If these proposals are to go out with the heading, "Regulations for Architectural Competitions," then most probably the committee of promoters would write to the Institute for further particulars if they wanted them.

Mr. A. SYMON [*A.*]: Would not "professional" be sufficient without "fully qualified"? Might it not be left to the common sense of promoters that they would desire to have a qualified professional assessor? What is the difference between "qualified" and "fully qualified"? I should certainly omit "fully" if you put in "qualified."

Mr. WILLIAM WOODWARD [*F.*]: I do not see why we should alter it. Take, for example, a medical man. You say you employ a fully qualified medical man, and it is quite understood.

Mr. HUBBARD: That is quite different. In the case of the medical profession a man is fully qualified when he has taken a medical degree.

THE HON. SECRETARY: There are numbers of professional men practising as architects who are not fully qualified, and a committee of promoters, perhaps not over-particular about doing the right thing, might appoint anybody so as to get the cheapest man they could. These words, I think, would tend to deter them from doing so.

Mr. ANSELL: The whole point of my argument was not that we do not know what a fully qualified professional assessor is, but that the people who are to receive this document do not know; therefore we should tell them what a qualified man is. We all know people who call themselves architects, men in a large way of business, who are not members either of the Institute or of any of the Allied Societies. Should we be right in saying that they were not fully qualified? There is a competition going on at the present time where there is a difficulty of that kind.

THE PRESIDENT having put the matter to the vote, it was agreed that the words should stand as printed.

Mr. HALL: With regard to the second part of clause (*A*) to which Mr. Snell referred, it would be better, I think, if that clause were transferred to clause 2 dealing with the "duties of assessors."

THE PRESIDENT: I think Mr. Hall is right.

THE HON. SECRETARY: I am not sure that I agree. All these clauses (*A*) to (*F*) are considered to be essential so far as promoters are concerned. This is an indication to them that the assessors' award, which they have to confirm, must be in accordance with the conditions laid down for promoters. Otherwise they might override the award of the assessor and do something quite contrary to the conditions we have laid down.

Mr. HALL: That is hardly so. The promoters have to appoint an assessor. Then we lay down what the duties of the assessor are. He is to confer with the promoters and to draw up instructions for the guidance of competitors and for the conduct of the competition; and the awards are to be made in strict adherence to the conditions formulated in each particular case; and, under clause 2 (*e*), to report to the promoters on the designs. Therefore that is strictly a duty of the assessor, and I think it would be wise to put it in its proper place, under clause 2. It would come in there as an instruction; the assessor is to make his award in strict adherence to the conditions, and I think it is well that the assessors should be told that.

THE PRESIDENT: We will make a note that it is to come in under clause 2 as (*e*), and when we get to (*e*) we will settle it then.

Clause (*A*) as amended was then put from the Chair, and agreed to.

Mr. WM. WOODWARD [*F.*], speaking on paragraph (*B*), moved to insert the words "or joint architect," so as to read: "No promoter of a competition, and no assessor engaged upon it, nor any employee of either, shall compete or assist a competitor, or act as architect, *or joint architect*, for the proposed work." A man might say, "I am not acting as architect; I am acting as 'joint architect.'"

THE PRESIDENT: I think that is sound.

Mr. MAURICE B. ADAMS [*F.*]: There have been cases not so well known which the addition Mr. Woodward proposes might perhaps have prevented. There have been cases where an architect has acted as assessor, and afterwards become associated with the work, taking practically half the fees away from a young man who could very well have done the work, and who gained but little assistance from the intruder. I think Mr. Woodward is quite right. When a man acts as assessor he ought, if there is any little assistance he can render to a young architect, to be only too pleased to do it. But for him to be associated in any way with the job and taking half the fees is detrimental to the welfare of the profession.

Mr. SAXON SNELL having seconded Mr. Woodward's proposal, the point was put to the meeting and carried.

Mr. SYMON moved to add the word "consulting," so as to read, "joint or consulting architect."

Mr. ALFRED W. S. CROSS [*F.*] seconded.

THE HON. SECRETARY: I cannot see what objection there is to the assessor acting as consulting architect if the promoters wish it.

Mr. CROSS: It is very dangerous.

THE HON. SECRETARY: In the first competition I was fortunate enough to win I should never have got the job if the assessor had not acted as consulting architect. He did not interfere with me, but he was of the greatest assistance in backing me up. I was absolutely untried, and nobody had any confidence in me. I am quite sure that any young architect who has won a competition would be only too glad to have somebody associated with him; and the assessor, being in touch with the work, is the man who most readily occurs to one.

Mr. CROSS: The principle is wrong.

The proposition, being put to the vote, was negatived on a show of hands. Paragraph (*B*) as amended was then agreed to.

THE PRESIDENT, on Paragraph (*C*), "Each design shall be accompanied by a declaration, signed by the competitor, stating that the design is his own personal work," &c.: I think we ought to make it clear that the promoters should ask the competitors to make this declaration, not that we should. It is not quite clear. It looks as if it were an instruction to competitors.

Mr. HALL suggested that the paragraph should end with the word "submitted." It might be a difficult thing for a man to satisfy the assessor that he possesses the necessary qualifications for the appointment

of architect for the work. Take, for instance, the case of a young architect who is perfectly competent but who has not carried out a big work.

Mr. Hall's proposition to omit all the words after "submitted" was put to the vote and carried.

Mr. Wm. Woodward, referring to the word "design" in the first part of Clause (*C*), suggested that the assessor might have some difficulty in arriving at the meaning put by the Institute on the word "design." He understood that what was meant was that the author had prepared sketches, not necessarily that he had made the drawings; that he had prepared the design—it may be in the smallest possible form—just as an initiation or conception. Was that clear to the promoters? He did not know how, without a lengthy description, it could be made clear to promoters what was the meaning of the term "design."

Mr. Hall : It is a fairly well understood expression.

Mr. C. Beatson Young, *Licentiate*, suggested that the words "own personal" should be deleted. In many cases the design would be the actual personal work of the competitor; but there were numerous cases where competitors could not possibly make a declaration of that kind. He suggested it should read, "that the design is his work."

Mr. Hall : Why not "his own personal work"?

Mr. Young : There are many architects, men in busy practice, who employ first-class draughtsmen to do their designing for them. By design I mean the actual design of the façade, not the laying out of the scheme. The actual design may not have been done by the principal himself, and if he were an honourable man he could not put his name to a paper saying that it was his own personal work.

Mr. Statham : Then he has no business to go in for it at all.

Mr. Young : You cannot help it.

Mr. Statham : Yes, you can. It is the very abuse we want to get rid of.

Mr. Hall : I agree with Mr. Statham. It is an abuse, and the very abuse we want to get rid of. We have had many cases before the Council where a man has employed a ghost to do his work; he has taken all the credit and all the remuneration, and some man to whom he has given a few guineas has done the design. We should take every step we can to prevent a recurrence of this practice.

Mr. Statham : I should like to mention a matter that was told me a good many years ago by one of our cleverest young architects then, who was in the office of an architect whom I will call Mr. A., a most respectable man. He said : "I made the drawings for that competition." I asked him how much of it, and he said : "I made every stroke of the elevation, and then Mr. A. came and put his name in the corner." That is the sort of thing we want to get rid of.

Mr. Young : I withdraw my proposal if it is the intention to give the man who actually does the work the credit.

Mr. W. Henry White : The clause refers to "competitor" in the singular, and we know there are some very eminent architects who work in pairs. Would it be sufficient if a firm of architects say it is their work? It has been asserted that a work of art cannot be produced by two men jointly; but such a thing is often done, and I think we should make it quite clear in these Regulations that it is permissible. Your predecessor, Sir, and his partner, and many others have worked together, and surely the design might be signed by one or other of them?

The President : If two members of a firm go in for a competition, they are entitled to call themselves "the competitor."

Mr. White : It has been contended that a firm cannot make a design. I think it should be clearly expressed in this particular clause that a firm can make a design.

Mr. Frank Foster [*A.*] : I should like to ask how the successful competitor could satisfy the assessor that he is the *bonâ fide* author of the design?

The Hon. Secretary : I can explain the reason why it was put in. There have been cases where the successful competitor has made the required declaration, and there has been a doubt in the assessor's mind whether that declaration was a true one. The intention of this is that it shall be open to the assessor to inquire into the truth of the declaration.

Mr. Hall : We had an identical case of that sort brought before the Council, and on investigation it was found that the declaration was false, and the man lost the competition, very properly.

On the motion of Mr. Statham it was agreed to insert the words "or joint competitors," so as to read "signed by the competitor or joint competitors."

Clause (*C*) was then carried as amended.

Mr. Saxon Snell, on Clause (*D*), referring to the words, "in which case the author of the design placed next in the order of merit shall be employed" : Is not that rather hard? Is it likely to be adopted by promoters?

The President : Do you object to it?

Mr. Saxon Snell : No; I do not object to it. I do not think it is good policy to put it in.

The President : What would you propose?

Mr. Saxon Snell : I should leave it out entirely.

Mr. Maurice B. Adams : If you leave it quite as it is you are precluded from inquiring as to the second man. You have excluded the first man; but the second man comes in, according to this, without any inquiry, and necessarily takes the first man's place.

The President : Having got rid of the first, the second must be treated as the first.

Mr. Maurice Adams : That is not quite expressed.

Mr. Hall : After the word "employed" I suggest "subject to similar conditions."

Mr. Statham : I wish to move an alternative to this clause, which I think is the most important of all. I suggest that it is too strong; if you pull the cord too tight it will snap. You are going on the principle that the assessor is in fact an arbitrator. I say that the assessor is not an arbitrator. An assessor is described in the dictionary as one who sits with the judge to assist him, but he is not the judge. The people who promote the competition are the people who have to pay for the building and to live in it, and I do not think they ought to be treated as persons with no voice in the matter. Then, again, the assessor is one man and is subject to making mistakes. I can recall two cases in which the assessors, who were very eminent men in the profession, made awards that were absolutely wrong and were set aside by the committee, quite rightly. There should be some recognition of the right of the committee to have some opinion instead of being finally dismissed at the orders of the assessor. I propose to put it in this form : "The advertised premiums shall be awarded, in order of merit, in accordance with the judgment of the assessor; and the first premiated design should be selected for execution, that course being not only the fairest to the profession, but likely to be in the best interests of the promoters themselves." The principle of that is to lead the committee instead of absolutely compelling them. Some committees, of course, are composed of very uneducated men, but that is not always the case; you will find people on committees who are men of culture and thought, who will expect to have some reason given

them for the choice. Moreover, I cannot help thinking that if the assessor does not carry his committee with him in consultation it is to a great extent very often his own fault. I remember another case in which the committee threw over the assessor because he was so uncertain in his own opinions that they ceased to believe in him. My whole proposition is that the committee should have some chance of having their own wishes considered. Supposing the assessor selects one design for the first premium, thinking it is decidedly the best design, and the committee, for reasons of their own, think that the second premium would suit them better, I do not see why they should not have the right to put it, at all events, to the assessor and hear his reasons, and have their wishes to some extent considered. I am afraid my proposal will not be very popular, but I have seen a great many mistakes made by assessors; I do not think they are infallible, and I certainly think that the people who have to pay for the building have a right to a say in the matter.

Mr. Percy S. Worthington [*F.*]: Might I suggest that the time for the committee to express their views is before the assessor gets to work, and after the assessor has fully grasped the views of the committee, he is the best man to decide.

Mr. Matt. Garbutt [*F.*] seconded Mr. Statham's amendment.

Mr. Saxon Snell: I am very much in sympathy with Mr. Statham, but I think his point is met by the next clause. After all, the competitors very much desire—and rightly so—that the assessor's award should be binding; and our view in committee was—I must not speak for the Committee, I speak from my own point of view—that if the promoters like to disregard the arbitrator's award, they are quite at liberty to do so, but they must pay for doing so. That is met by (*E*). We ought to be quite satisfied with that. It is the position of a client who accepts a design and then says that he will not carry it out.

Mr. Wm. Woodward: The only thing as to Mr. Statham's suggestion is, whether it is not toning down this clause too much. This is an imperative clause; it says "shall"; whereas in Mr. Statham's clause I think I caught the word "should."

Mr. Statham: I put "shall" for the premiums; the assessor should award the premiums absolutely. I then put it as a piece of advice to choose the first design to carry out.

Mr. Hall: With great respect to Mr. Statham, I am sorry to say I feel constrained to oppose this amendment. This is a principle for which we have been contending for years. I think it is in the interest of every architect, young and old, and it is desirable that it should be enforced. I have been assessor for a good many competitions and some large ones, and I always put in a clause, not quite in these words, but something to this effect, and I have never found yet, when it has been properly explained to any council or committee, that they have objected to it. If they have confidence in their assessor they will give way, and it is the only way to prevent undue influence. I strongly urge that we should insist upon this as a principle, and I do not think that any reasonable promoters will object to it. In the first place they are asking a number of architects to spend a great deal of money on the competition. They themselves acquiesce in the appointment of the assessor, in whom presumably they have confidence; and therefore the assessor's award, unless there is some good reason to the contrary, should be respected. I strongly urge upon the Committee that this is a sound principle.

Mr. Matt. Garbutt: It certainly seems dangerous to adopt too dictatorial a style in these Regulations. After all, the promoters will have to pay, and they ought to have some say in the matter even if they do not want to employ the man. It seems to me that the next clause (*E*) meets the point—that if no instructions are given to the author, he shall be paid $1\frac{1}{4}$ per cent. The promoters surely ought to be at liberty to withdraw, just as a private client can, from employing a man, provided they pay him for what has been done. If we insist upon promoters putting themselves entirely in the hands of the assessor, I think it may result in very great difficulties. I should like to see Mr. Statham's amendment carried, or something in that sense.

Mr. Maurice B. Adams: I think previous speakers have not quite realised the position in which they may be putting architects. Just consider what the profession has to pay for these competitions. Instead of architects being under an obligation to promoters, it is promoters who are under an obligation to architects. Because building owners cannot agree among themselves, or because one man wants one architect employed and another man wants another, they decide to have a competition. Then promoters must pay the penalty for it; they must pay for their want of knowledge or for their want of agreement among themselves. Many of us think it would be much better in some cases if committees would not hold a competition at all, but go to a man who is obviously the best man in the district for that particular work, especially in provincial towns. Why should a man at Newcastle be imported to some place down south to build a small school? Why should it not come to somebody in the neighbourhood who is very well known and could have built that school quite as well? Why should we encourage this sort of thing if we can possibly dissuade people from it? No one is advantaged, and much cost all round would be saved. I myself agree with Mr. Hall. It may be that this clause is a little peremptory in its wording, but I do think that if promoters are to have the advantage of a number of designs to choose from, in making their choice they should have an assessor, the best assessor we can help to give them; and, having done that, they should adopt the design he considers the best. He may make mistakes—sometimes he makes terrible mistakes—still, we cannot go behind that. Therefore I think the line Mr. Hall has suggested the only true one, and I could not follow Mr. Statham in his argumentative and sort of apologetic reconstruction of this paragraph, which had best be left as it stands.

Mr. Statham's amendment, being put to the vote, was declared lost.

Mr. Hall: May I suggest a little less objectionable form of words. Instead of saying "unless the assessor shall be satisfied upon some objection being raised to the employment of the author of the selected design to carry out the work, that such objection is valid," which is a very long parenthesis, I would suggest the following: "Unless the assessor shall be satisfied that there is some valid objection to such appointment"—that is all you want—"in which case the author of the design placed next in the order of merit shall be employed, subject to a similar condition."

Mr. Maurice B. Adams seconded.

Mr. Beatson Young: Is the meaning of this clause as it stands, that the promoters of the competition, having received an award to the effect that one design is superior to any other sent in, shall be obliged to abandon that design because the person who made that design is not a suitable person to carry it out? If the assessor is satisfied that a design is the best, the regulation ought to be worded in such a way that the design may be carried out, even if it has to be carried

out by some other person. The clause does not say that the second design shall be carried out; it says that the author of that design shall be employed. Is he to be employed to carry out the design made by the first one?

THE PRESIDENT: Certainly not.

Mr. YOUNG: It seems to me it would be a great hardship that the assessor's award should be put on one side and the best design not be carried out.

Mr. Hall's amendment—viz. after the word "satisfied" to delete from "upon" down to the word "valid," and substitute "that there shall be some valid objection to such employment," and then continue, "in which case the author of the design placed next in the order of merit shall be employed, subject to a similar condition"—having been seconded by Mr. Cross, was put from the Chair and carried.

Mr. W. HENRY WHITE: In the last line, should not the word "constitutes" be "shall constitute"?

Mr. HALL: I think it should.

A MEMBER: Is it wise to arouse the susceptibilities of the committee by mentioning such a thing as a breach of faith so early in the day?

Mr. HALL: Might it not be simply "the award of the arbitrator shall not be set aside for any other reason"?

This proposal being seconded and voted upon was agreed to.

Clause (*D*), on a show of hands, was then declared passed.

Mr. HALL, on Clause (*E*): I think the words in the third line ought to be "are earlier abandoned." I have a curious case of my own at the present time. For six years the promoters have said they are going on with the work, and for six years they have done nothing. They say that my fees are not yet due because they are going on. I think, therefore, you should say "are earlier abandoned"—earlier than the twelve months.

Mr. GEORGE HUBBARD: That would be met if you had the 1¼ per cent.

Mr. HALL: But I have not got it.

Mr. HUBBARD: The point is that you would have it under this paragraph.

Mr. HALL: No; it may be read as an alternative if they do not do it for twelve months, or if they abandon; and it may be said: "We do not intend to abandon; we are going on."

THE HON. SECRETARY: The point would be met by crossing out the words "or if the proposed works are abandoned by the promoters."

Mr. HALL: Yes; that will do.

The proposition was carried.

A MEMBER: This clause is not clear whether the 1¼ per cent. should include the premium.

THE PRESIDENT: The document contemplates that the premium is one thing and the commission another.

Mr. HALL: Instead of the word "and" in the last line but one, it should be either "but" or else a new sentence. It might be better to make it a new sentence.

Mr. STATHAM: You do not want "and."

Mr. HUBBARD: I have one suggestion to make. If in any event the promoters are liable to 1¼ per cent., why should they not make the premium 1¼ per cent. and merge it in the commission when the work goes through?

Mr. HALL: They never will do that.

Clause (*F*) was then put and carried.

Mr. BEATSON YOUNG, on Clause 1, asked whether it meant that the name of the selected assessor should be published in the original advertisement—the name, or only that a professional assessor has been appointed? He thought it a great mistake to publish the name of the assessor. He remembered a competition not long ago for which half a dozen friends of his entered where the name of the assessor was published, with the result that only one style of architecture which was attached to the name of the assessor was submitted. The publication of the fact that the President of the Institute had appointed, or that the promoters, on the advice of the President, had appointed a professional assessor, was good, but the name of that assessor should be omitted until later. He moved that it be so adjusted that the name should not be published.

Mr. HUBBARD: I think that is a good point. I remember a competition where the successful competitor had been at some time of his life in the office of the assessor, and the gentleman who won the second premium also had been in his office, and the third. The competition was really quite honest, but all the competitors knew exactly the style required by the assessor, and they played up to the assessor.

Mr. HALL: That means that the assessor's name is never to be known?

THE PRESIDENT: That is what is wanted.

Mr. HALL: But it is not possible. One of the duties of an assessor is to prepare the conditions, and another is to answer queries. Is he to withhold his name throughout?

Mr. MAURICE ADAMS: The more open these things are, the better. I am decidedly of opinion that it is in every way more healthy and more advantageous that the name of the assessor should be known. It gives confidence. If people try to play up to the assessor, they will very likely find they have made a great mistake. He is quite likely to go in the opposite direction. I propose that it be left as it is.

THE PRESIDENT: Nobody has seconded it, so it falls to the ground.

Mr. MATT. GARBUTT moved the insertion of the words "and name" so as to read "whose appointment and name should be published."

Mr. SAXON SNELL seconded.

Mr. STATHAM: Do not the words "whose appointment" almost imply that?

Mr. HALL: You might omit "appointment" and say "whose name."

THE HON. SECRETARY: There are some cases where the promoters prefer that the name should not be published. You had better leave it rather vague; it is not a very material point.

Mr. SYMON: I agree with Mr. Hare that it had better be left as it is.

The amendment was put and lost.

Clause 1, as amended, and clause 2 (*a*) and (*b*) were respectively put and carried.

Mr. SAXON SNELL, on the note "It is essential," &c., to paragraph (*b*): Going back to the same point, surely it is better to state definitely which of the conditions must be strictly adhered to and which of them are merely optional.

THE PRESIDENT: You want to put in "optional"?

Mr. SAXON SNELL: Yes; to strike out the words "of a suggestive character," and say, "which of them are optional."

The amendment was carried, as were also paragraphs (*c*) and (*d*).

Mr. HALL: I suggest that paragraph (*e*) should read: "To make the award in strict adherence to the conditions formulated in each particular case." What is now (*e*) I would deal with differently.

THE PRESIDENT: You propose to bring in here the last part of (*A*)?

Mr. HALL: Yes; that is one of the duties of the assessor—to make the award in strict adherence to the conditions formulated in each particular case.

THE HON. SECRETARY: Is there any objection to

leaving it as it is—keeping the whole of the first part and letting it read in this way : "To report to the promoters on the designs not so excluded, to make a selection of those he considers the best, and award the premiums in strict adherence to the conditions."

Mr. HALL : Why not omit the words "make a selection of those he considers the best," and read : "To report to the promoters on the designs not so excluded, and to award the premiums in strict adherence to the conditions"?

The latter proposal was carried, as were also Clause 3 (*a*), (*b*), and (*c*), and the note.

Mr. SAXON SNELL, on Clause 4 : In line 2 it should read, "and *the drawings* shall not be more in number."

THE PRESIDENT : Yes, it ought to be so.

A MEMBER : Is it necessary to put the scale in?

THE PRESIDENT : We want to let them see that we do not expect full-size details.

Clause 4 as amended was carried, as were also Clauses 5 and 6 (*a*).

Mr. SAXON SNELL, on Clause 6 (*b*) : It should be "give substantially," not "substantially give."

The amendment was agreed to, and Clause 6 (*c*) was carried.

Mr. BEATSON YOUNG, on Clause 6 (*d*) : I think 5 per cent. ought to be sufficient. Surely any man can estimate the cost of his building within 5 per cent.

Mr. CROSS : No; it is never done.

Mr. HALL : I think the last sentence is a very difficult one—I am now thinking of the competitors—"If the assessor or assessors be of opinion that the outlay stated in the instructions is inadequate." We have already said that the assessor should be appointed at the outset, and that he should advise on the instructions; in fact he should issue them : he has to draw them up.

THE PRESIDENT : You might add "not having been consulted."

Mr. HALL : I do not suggest that he should not be. We say that he shall draw up the instructions, and I think it is very wrong to put this in, because we all know of cases where the assessor, owing to error of judgment, has given a bad decision, and has given it to a design that has cost two and a half times the sum that other men have designed for. Therefore there is no competition at all. It is not fair to compare the design of a man who is unlimited in funds with that of a man who is religiously trying to keep within the amount specified. I think that sentence should be omitted.

THE HON. SECRETARY : This is where the amount allowed is not enough.

Mr. HALL : But we say that one of the duties of the assessor is to draw up instructions, and he has to put the amount in.

THE HON. SECRETARY : There are a number of cases where promoters will not be guided by the assessor. They say, we will not give any more, and the result is that the assessor has to give way.

Mr. HALL : Then look how you are handicapping a competitor who is trying to keep within the sum stated. It is not fair to him that he should be competing with a man who makes up his mind that he will ignore the amount.

THE PRESIDENT : But if he does keep within the amount he has a better chance.

Mr. HALL : No; for the reason that his design is not so good : he has to make a poverty-stricken design.

Mr. SAXON SNELL : I would point out to Mr. Hall that we have already agreed to the clause which says that one duty of the assessor is to confer with the promoters and advise on the question of cost, but not to fix the cost to be stated in the conditions—only to advise. That leaves the promoters quite at liberty to dictate an absurd sum, and put it in the conditions. Therefore the wording in the clause now, or some equivalent, seems necessary.

Mr. HALL : I propose that the sentence be deleted.

Mr. STATHAM : I second that.

Mr. MAURICE B. ADAMS : I must oppose the amendment, because it is not a question of a man who tries to do the most for a limited sum, for obviously, on the other hand there are definite stipulations made that there must be a certain amount of defined accommodation. So that a competitor is in this position : "If I give them the accommodation demanded as essential I shall evidently exceed the amount they have stated as the limit. Therefore I am between the devil and the deep sea : I do not know which to do." If the clause stands as it is now, it seems to me that the assessor will have some chance of doing justice to the people whose work he is adjudicating upon. There may be a sort of medium course, where a man does give approximately the specified accommodation, but he does it so adroitly that he moderates the expense. But you cannot have it both ways. If the sum is inadequate the promoters cannot have the accommodation asked for, and as the accommodation asked for is much more easily assessed than the amount of money it would cost —I say it advisedly—if a room is to be 50 feet long and 20 feet wide, that is a definite statement. Or if two sets of assembly rooms are required. In a competition I know of only one was provided, and everybody else stood no chance, of course, because though the instructions said there were to be two sets, the architect who got the job provided only one, and so manipulated the estimate; although in that case no specific sum was mentioned, the price did weigh, no doubt, with the assessor. He thought the building was large enough for that sort of place, and, disregarding the conditions, he selected that design. When you have a definite condition that there are to be so many baths or rooms, to accommodate so many people sitting at a concert or what not, that is a definite statement. You have no 10 per cent. margin, as in a money limit; you have to give the sizes; and the man who does that most adroitly will probably do it the cheapest. So that I think it is best to leave the clause as it is.

Mr. FRANK FOSTER : With regard to (*d*), if the assessor is of opinion that the outlay stated in the instructions is inadequate, I think the assessor ought to so advise his committee, and instructions should not be sent out which are impossible. I think it is incumbent upon committees not to go the wrong way to work.

Mr. W. HENRY WHITE : But if it is impossible to estimate within 10 per cent., is it not making it impossible for him to advise on the amount?

THE PRESIDENT : It is very difficult.

The amendment, being put to the vote, was declared lost.

Clause 6 (*f*) was passed as printed.

Mr. HALL, on Clause 7, relating to exhibition of designs after the award : That means, of course, public buildings. It does not apply to private competitions?

THE HON. SECRETARY : It only says "it is desirable."

Mr. HALL : In private competitions it is very undesirable. It should only be in open competitions. We might specify only in "public buildings." But it is absurd for private buildings like banks and insurance offices.

Mr. MAURICE ADAMS : "Public works."

Mr. HALL : I should say : "It is desirable that all designs and reports for public buildings."

THE HON. SECRETARY : We might strike out the word "publicly," because even in the case of the smallest buildings it is desirable.

Mr. STATHAM : Is it desirable to say anything as to whether the assessor's award should be made public—or is it a private document?

THE PRESIDENT : It says in the last line that the "award shall be published at the time of exhibition."

Mr. HALL : Does that mean the verbatim award?

THE PRESIDENT : I should take it to mean the award.

THE HON. SECRETARY : The policy we have always favoured is that the award should be a public document.

Mr. HALL : So many assessors make their award a confidential award, which it should not be; it ought to be a public document and be published.

A MEMBER : The words "shall be exhibited" mean exhibited to the competitors, I presume; otherwise the committee might see the designs without the competitors. It should read "exhibited to the competitors."

Mr. HALL : I think that is a good suggestion.

Mr. MAURICE ADAMS : In the case of public works, the promoters are bound to show the designs to the ratepayers. I do not remember one case where the public were not admitted at some time or other. But I see the force of Mr. Hall's reference to banks, insurance offices, and so on. It would be better to read, "exhibited to competitors."

THE HON. SECRETARY : Then that may only be to the competitors. I had an experience myself not long ago, in a competition for a public building, where they would not exhibit the drawings, and I had to insist upon it. I had the greatest difficulty in getting an exhibition at all.

Mr. HALL : All public competitions ought to be publicly exhibited, and all private ones exhibited to the competitors.

The Meeting having expressed itself in favour of that principle, the clause was passed, subject to the amendment required.

THE PRESIDENT pointing out the footnote on the first page that had escaped notice, it was read and agreed to.

Mr. SYMON : I should like to make a suggestion to assessors that, if it is feasible, they might put into their conditions that the plans for which premiums have been awarded should not be made the property of the promoters. The promoters are not buying the designs, because the premium which is awarded to them frequently does not represent their value. I do not think the plans ought to be retained by the promoters. If they wish to retain them and make use of them, they should pay for them; otherwise, probably they are only cast aside.

THE PRESIDENT : You wish to suggest that only designs that are carried out should become the property of promoters, and that the others should be returned? Will you leave that to us to put in?

Mr. SYMON : Yes.

THE HON. SECRETARY : It always seems to me that the second and third premium designs are worth nothing at all. In most cases the men are rather glad to get rid of them. They are only waste paper.

Mr. W. HENRY WHITE : It hardly seems worth while insisting on their return.

Mr. SYMON : I do not agree with Mr. Hare that they are worth nothing at all.

Mr. WHITE : They are legally returnable.

Mr. MAURICE ADAMS : A man may make a rather nice detail or elevation which he may be glad to send to some exhibition. The drawings are of no use to the promoters, and they may as well return them. If a man wants to send to some exhibition he has something ready to hand, and it may lead to some business. I think he should have them back.

THE PRESIDENT : I take it that the Meeting is in favour of the proposal, and will leave it to the Council to insert some clause to carry it out?

This having been agreed to, the document as amended was put as a whole and carried.

St. Paul's Bridge.

The Times of the 22nd inst. published the following letter from the President, Mr. Leonard Stokes, addressed to the Editor :—

SIR,—In your issue of the 18th the chairman of the Bridge House Estates Committee is reported to have said that "the Corporation were not disposed to build a new bridge simply to get a finer view of St. Paul's Cathedral." Was such a suggestion ever made?

As far as I am aware, they have only been asked to plan and arrange the new bridge which they have decided to build in such a position as to make it an architectural success, instead of a dismal failure, such as most of the London "improvements" made in my memory have been.

Further, in the absence of any definite scheme, the assertion that such an arrangement would cost more and be worse for traffic cannot be worth very much; and I may mention that it would not be difficult to improve upon the Corporation's scheme from the traffic point of view, even if the cost of the better scheme was a little higher, which, however, has not yet been proved; and to cap everything Mr. Macartney, on behalf of the Dean and Chapter, now tells us that the proposed subway for trams will endanger the Cathedral foundations.

It will thus seem that a good case for further inquiry has been made out; but I fear the Corporation does not appreciate the position which the Royal Institute of British Architects takes up in this matter. There is no desire to cavil at the Corporation on the way they spend their trust funds, but simply an earnest desire not to see a fine opportunity lost; and if the Corporation has no faith in English judgment it would be a simple matter surely to consult, say, some French or German architects.—Yours faithfully,

LEONARD STOKES,
President R.I.B.A.

The Statutory Examinations.

An Examination of Candidates for the office of District Surveyor under the London Building Act, held by the Institute pursuant to section 140 of the Act of 1904, took place on the 27th and 28th ult. Of the ten candidates admitted the following five passed and have been granted by the Council certificates of competency to act as District Surveyors under the London Building Act :—

CONDER : Alfred Rowlands, Palace Chambers, Westminster.
DOLL : Otto Sigismund, 157 North Street, Brighton.
FOGERTY : John Frederick, Belfast House, Gervis Place, Bournemouth.
MESTON : Alexander Clark, 76 Hatfield Road, Bedford Park, W.
WATSON : Frederick Percy, 114 Wrottesley Road, Harlesden, N.W.

Sir Rennell Rodd on the British School at Rome.

Sir Rennell Rodd's speech at the Annual Meeting of the British School at Rome last Tuesday has matter of special interest to the architectural student. The scheme he puts forward for the more extended usefulness of the School is eminently desirable, and should command the liberal support of the great Universities of our self-governing Colonies. We quote some extracts from *The Times* report :—

Sir Rennell Rodd said the British School at Rome, which was and should be recognised as a national and Imperial institution, had now completed ten years of existence, and the good work which it had accomplished should be regarded as a measure of what it might achieve under more favourable conditions. He was far from depreciating the magnificent work which had of recent years been accomplished in other fields, the unveiling of the lost secrets of early cults and dynasties and the revelation of the sources of inspiration which contributed to make the grandeur that was Rome. He would not advocate in the student any exclusive loyalty ; but he would insist on the fact that no student of archæology, no student of architecture or sculpture could afford to neglect the lessons that Rome had to teach, and that the last stage in his course of study should be the co-ordination of his experiences in the inspiring atmosphere of the Capital of Nations. It should never be lost sight of that Rome, in the period of her greatness, centred in herself all the civilisations of the world. There was no one and uniform standard or structure of civilisation after she had once emerged from the narrow phase of her earlier evolution, but the influence of all and each was felt in the metropolis. And the study of Roman archæology had for us a nearer and more immediate interest than any other branch of the science, because of the continuity of Rome and of her enduring influence on the life of the modern world. There had been no essential break with the tradition of Roman thought, and we ourselves were intimately associated with the history of its development.

The vast field of prehistoric investigation promised a rich harvest in Italy. The labours of Mr. Peet, a member of the British School, had already prepared a foundation for future studies of the Stone and Bronze Ages. A commencement of practical research had been initiated, and the megalithic remains in Sardinia and Malta had been recorded under the auspices of the school. Mr. Peet had drawn attention to the wide area that was open for exploration in the palæolithic epoch in Italy and the islands off her coasts, as well as to the study of the relations of Southern Italy with the Ægean civilisations. The comprehension of the early history and transformations of the aboriginal Romans must remain incomplete until we had solved the Etruscan problem, which still presented all the fascination of an undiscovered land.

But where, it might pertinently be asked, could the whole range of art be so comprehensively studied as in Rome ? If perhaps individual examples of the masterpieces of antiquity existed in greater perfection elsewhere, it was in Rome alone that we acquired a synthetic view of the whole long progression of development, while in quite recent years the marvellous agglomeration of this artistic treasure-house had received additions of the highest importance to the student. In Greece and in Asia the material for observation was comprehended in a period comparatively restricted. In Egypt the period was not brief in the ascending scale, but the sense of continuity was wholly absent. Those who could not afford the time to visit all the ancient centres of culture would find their epitome in Rome. Some, indeed, of the most beautiful specimens of Greek archaic art were to be seen there, and there the gradual establishment of the mastery of craft over the resistance of material might be followed in all its stages. There was no lack of original Greek work of the best epoch. The Baracco Museum, recently opened to the public, was in itself a new revelation. There was also an abundance of contemporary and nearly contemporary reproductions of the great examples. Hellenistic sculpture could be studied there as nowhere else. It was often asserted that the Renaissance was but poorly represented in Rome, but such a charge rather suggested that its framers, absorbed in the antique, had neglected the material at hand. The greatest masterpieces of its artistic accomplishment would be found no doubt in other Italian cities ; but in the range of monumental sculpture the transition from the Romanesque to the Renaissance could be studied as nowhere else in the great series of tombs of Popes and prelates which thronged the Roman churches and made the little-known crypt of St. Peter's one of the most interesting of historical museums.

And if this was true of plastic art it was not less so of architecture. The importance of Rome to architectural students had, he was glad to say, been recognised by the Royal Institute of British Architects, whose co-operation in the welfare of the School was, he hoped, destined shortly to take a more active development. The Classical, the Early Christian, the Renaissance, the Baroque were all of them to be investigated in and from Rome. He would not touch upon the controversial issue of the origins of Byzantine architecture, but he might claim that Early Christian antiquity could only be studied in Rome. It was not correct to suppose that the extensive and barbarous modernisation of the Roman churches had created a gulf too wide to bridge over between the Classic and the Renaissance. There were still many remarkable examples of mediæval construction practically untouched, and it would suffice to remind such an audience of the churches and cloisters of S. Saba, S. Lorenzo outside the walls, the Quattro Santi on the Coelian, and SS. Vincenzo and Anastasio at the Tre Fontane. Where else could the students of Early Christian archæology find such a wealth of material, so many immediate links, as it were, with the very Founder of the Faith ?

But in such an assembly he need not further elaborate the Classical claims of Rome to be the first archæological centre of the world. Nor need he dwell on the good work the School had already accomplished with the exiguous resources which it commanded, thanks to the self-denying efforts of its directors and members. They had earned and maintained an honourable place among the similar institutions which friendly nations supported in Rome, and they had done so in virtue of the devotion and enthusiasm of those who had given their time and energies whole-heartedly to the School. And yet their total income of last year did not much exceed £1,100. Of this sum £500 was a grant from the Treasury, secured to them for a limited time, and therefore precarious. They had a growing list of subscribers, mostly, however, composed of students whose names

figured also on the lists of the other kindred institutions. None of the munificent patrons of public education and public libraries seemed as yet to have realised the important work the School could accomplish if more liberally endowed. The great self-governing Colonies had not yet apparently appreciated what the School had to offer to their students, and the School had also to struggle with the general apathy against which research in that country had to contend.

He had now sketched, very superficially he feared, the wide field which Rome and Italy still offered for investigation and comparison, and the claims of Rome to be the most important centre of archæological study, and had briefly exposed the actual financial position of the School. In conclusion he wanted to lay before them what he should like the School to be, and what he believed it might become if they could only reach the ears of those who would support them if they understood their aims. The British School at Rome should be the final stage in the college career for the elect of post-graduate students, where the seed implanted should fructify with all the stimulus of opportunity and environment. He should like to see it endowed with scholarships and research fellowships, but he knew that our older Universities were far too heavily burdened with obligations and responsibilities for such an aspiration to have any prospect of practical fulfilment.

But might not such a scheme as this commend itself to the great Universities of the self-governing Colonies, who would, he trusted, grow to understand that the School at Rome was an institution ready and able to do them service also by receiving their best scholars, their future art teachers, and their architects at the fountain-head of all the humanities? And if he ventured to appeal thus for support to the Colonial Universities and invited the New World to redress the balance of the Old, it was not only the material balance which he had in mind. The ideal which he cherished for the British School at Rome was that it should become a great national and Imperial centre of culture where the students of the five nations should meet and exchange ideas, whence they should carry back to their respective homes and Universities a touch of inspiration and enthusiasm acquired at the authentic spring and the source from which all modern civilisations were derived.

The American School at Rome found year by year a number of keen young scholars despatched by Universities which had appreciated the lessons which the venerable city had to teach. He was sanguine enough to believe that Canada and Australia and New Zealand and South Africa would not be slow to realise these advantages, and would perceive that, contemplating the brilliant future, they could not dispense with the study of "the past, big with deep warnings of the proper tenure by which they have the earth." Could not the Colonies be persuaded to send their future instructors and humanists to work side by side with the students of the old country? This new element would bring a certain freshness of view and a bold independence of judgment to bear on historical and archæological problems, and the representatives of the older institutions, profiting by such intercourse, could on their side communicate to their associates something of the spirit of reverence for antiquity and tradition in which they had been trained. The time had come when the new nations were awakening to the needs of a development not exclusively material, and he believed that in the School at Rome they would find a training ground for the humanists of a new Renaissance.

There were, he had reason to know, in the great communities beyond the seas a few, if but a few as yet, who had shown themselves susceptible to the magic and influence of Rome. And with their assistance he should like to see the great idea of Cecil Rhodes extended to this institution, this second and ultimate course of University training. In this respect, not less than as a centre of research for British scholarship, he believed the School might accomplish a great and vital work; but to enable it to fulfil its mission a little help was needed, and such help could only be enlisted by a wide dissemination of the knowledge and service it was able and willing to render.

It was announced at the Meeting that Dr. Ashby has consented to prolong his Directorship of the School for at least another three years.

The Mall Improvement: A Suggested Conference.

The Improvements Committee of the Westminster City Council, having further considered the subject of the completion of the Mall extension into Charing Cross, report that a letter has been received from the London County Council stating that it is considered that the completion of the improvement is not a matter with which the central body should deal. The Westminster Council Committee find that if the roadway into Charing Cross is widened to 66 feet in addition to the pavement on either side, making a total width of 88 feet, it would involve the acquisition and demolition of two additional houses to the west of the land which is now vacant. The addition of the sites of these buildings to the land already acquired would provide an opening into the Mall from Charing Cross which would conform to the plans of Sir Aston Webb. The committee are of opinion that it is highly desirable that the improvement should be completed as early as possible, and not left in an unfinished and unsatisfactory condition, and that it would be advisable to approach the Office of Works and the London County Council with a suggestion that a conference should be held between representatives of those bodies and of the City Council, with a view to ascertaining if it is possible to agree upon a scheme for widening the carriage-way to 66 feet, exclusive of the width of the footways.

The New County Hall: Visits to the Works.

Referring to the notice in the JOURNAL for the 22nd October last [p. 798] to the effect that facilities for watching the progress of the work of building the new County Hall would be granted to accredited members of societies and students interested in building construction, Mr. W. E. Riley, Architect of the London County Council, writes that the matter has been under the consideration of the Establishment Committee of the Council, and they find that it would not be convenient or prac-

ticable to allow individual members of societies or students to view the works, but that facilities will be afforded by Mr. Riley's Department for parties of members of societies or of students to visit the works at convenient times as may be arranged.

London Memorial to King Edward.

The Lord Mayor has addressed the following letter to the President of the Institute :—

The Mansion House, E.C.:
17th November 1910.

Dear Mr. Stokes,—You will have noticed from the newspapers of Tuesday last that I announced the opening of the Mansion House Fund for providing a Memorial of King Edward in London, and invited donations from Londoners towards this mark of respect for our late beloved King.

I shall be greatly obliged if, as a member of the Committee, you will kindly bring this appeal to the notice of the members of the Royal Institute of British Architects living in London, and either consent to receive their contributions yourself, or suggest their remitting them direct to me, whichever you prefer.—Believe me, dear Mr. Stokes, yours very truly, T. Vezey Strong,
Lord Mayor.

The Council desire that subscriptions towards the Memorial be sent direct to the Lord Mayor at the Mansion House.

L.C.C. District Surveyors.

The Building Acts Committee, at the meeting of the London County Council on 15th November, recommended the following appointments of District Surveyors :—Mr. Percy John Black, Battersea Central; Mr. Robert Henry Jewers Mayhew, Bromley St. Leonard; Mr. Baxter Greig [*A.*], Deptford; Mr. George Tolley, Kensington North, his resignation as district surveyor for Sydenham to be accepted as from 31st December 1910; Mr. Richard Dominic Hansom, Kensington South, his resignation as district surveyor for Catford to be accepted as from 31st December 1910; Mr. Charles Archibald Daubney [*A.*], Rotherhithe; Mr. Arthur George Morrice [*A.*], Streatham East; Mr. Henry Thomas Bromley [*A.*], Wandsworth East; Mr. Arthur Halcrow Verstage [*A.*], Sydenham; Mr. Ernest Alexander Young [*A.*], Catford.

Town Planning.

Professor F. J. Haverfield, delivering the Creighton Memorial Lecture at King's College, London, on "Greek and Roman Town Planning," said that in Oxford in the last thirty years there had been great building development. Large suburbs had been laid out, but, although Oxford was the home of intellect, education, and research, no intelligence had been employed in laying out or planning the new portions of the town. People were, however, now beginning to realise that if a square or some new streets had to be built in a town they must apply their intelligence to the task, and that they could not leave the health, convenience, and enjoyment of the people who were to dwell in the new areas to the mercy of the speculative builder or architects' somewhat overworked assistants. The problem of artistic beauty was very imperfectly solved, both by the Greeks and Romans. The Greeks gave magnificent views, but accompanied them with private houses which were a disgrace. The Romans provided private houses which were apparently well arranged, well drained, and well placed, but which did not lend themselves to grouping in stately fashion. The Roman plans and Greek views suggested that we ought to break away from the chessboard plan, and to see whether it was not possible to do something more skilful, perhaps, following the manner of modern German architects, to introduce the curve. But the Romans and Greeks had a definite plan. They did not lay out their towns according to the fads or fancies of individual architects. In this country we were apt to need in every phase of life co-operation and system, and if anything suggested to our architects that they should work out the philosophy of town planning, as apart from a number of brilliant schemes flashed out by great architects, something would have been done to promote the cause of town planning.

Obituary.

William Seth Robert Payne [*Associate*, elected 1882] passed away suddenly on the 26th June. Mr. Payne, who served his articles with the late Charles John Shoppee, had been for forty years in independent practice. He was the architect of numerous buildings in the City and West End, and of various country residences. He was surveyor to the Worshipful Company of Barber Surgeons, and was often in request as an expert in light and air and dilapidation cases.

John Thomas Christopher, whose death occurred on the 8th August in his eighty-first year, was elected Associate of the Institute in 1857, Fellow in 1877, and was placed on the list of Retired Fellows in 1902. Mr. Christopher was articled in 1847 to Mr. Robert Garland, Surveyor to the Salters' Company and afterwards District Surveyor of Hammersmith. On the completion of his articles he studied for two and a half years in France, Germany, and Italy. On his return he started in practice for himself, sharing offices with and occasionally assisting Mr. Garland. On the latter's retirement he continued to practise in the City, and to some extent at Watford, where he resided. In 1866 he removed his offices to 43 Lincoln's Inn Fields, and in 1877 to 16 Blooms-

bury Square. Among his works were the restoration of St. Aldate's Church, Oxford, and St. Mary's, Watford; the parsonages of St. Andrew's, Watford, and Langleybury; schools at St. Aldate's, Oxford, and Flamstead; Hanslope Board School; extensive alterations and additions to Berkhamstead Grammar School, including masters' houses, laboratory, and infirmary; various country residences, warehouses, factories, and wharves. He was the architect, in conjunction with Mr. E. E. White [*A.*], of Stair House, Lamberhurst, Kent; the premises for Messrs. Heath, the hatters, in Oxford Street; the Café Monico, Shaftesbury Avenue, with the new façade; and of the hall and staircase, Denham Court, Middlesex. An important early work was the residence Dunboy Castle, Bantry. He was for many years a member of the Council of the Architects' Benevolent Society, and a generous subscriber to its funds.

Albert Emanuel Pearson, whose death occurred suddenly a few days ago, was among the Licentiates elected on the 18th July last. He had been for nearly thirty years head clerk in the office of Mr. L. W. Barnard [*Licentiate*] at Cheltenham.

Edward Boardman, of Norwich, who died at an advanced age on the 11th inst., was elected Fellow of the Institute in 1871, and was placed on the list of Retired Fellows in 1907. Mr. Boardman was articled in 1850 to Messrs. Lucas Brothers, and at the termination of his articles, in 1855, spent some time at the Royal Arsenal at Woolwich superintending a large contract for that firm. He started practice in Norwich in 1860, and soon laid the foundations of a very extensive business. He acquired a great reputation for breadth of knowledge and experience, and served on many important cases as arbitrator appointed by the Court. He had a large share in the London Street Improvement Scheme in 1876–80, and in the rebuilding of the Norfolk and Norwich Hospital, 1879–83, the foundation stone of which was laid by his late Majesty, then Prince of Wales. Mr. Boardman's firm were also responsible for the new Jenny Lind Infirmary, the Leicester Nurses' Home, the Electricity Works in Duke Street, the Blind School, the London Street offices of the Norfolk News Company, the conversion of the old Brew House at the Great Hospital into a noble hall for the use of the old people in memory of the late Mr. Henry Birkbeck, and for many other buildings, private as well as public. His most notable public work in Norwich was his transformation of the old prison buildings at the Castle into the Castle Museum. The idea originated with him, and the practical carrying out of the project was committed to him. The New Museum was opened by the present King and Queen in 1894. Mr. Boardman was for many years a member of the Museum Committee, and frequently presided over their deliberations. He took an active part in civic affairs, serving as Alderman of the Norwich Council till within a year of his death. Mr. E. T. Boardman, a Fellow of the Institute, and Deputy Lord Mayor of Norwich, is a son of the late Fellow.

CORRESPONDENCE.

A Correction.

16 *Station Road, Petersfield:*
17*th November* 1910.

To the Editor, Journal R.I.B.A.,—

Sir,—I see in the report of Sir George Reid's humorous speech in proposing a vote of thanks to the President at the Opening Meeting, he referred to me as being a descendant of Inigo Jones. I am sorry to say I cannot lay claim to that distinction, and, as far as I am aware, Inigo Jones left no descendants.—Yours faithfully,

H. Inigo Triggs [*A.*].

ALLIED SOCIETIES.

Cape Institute of Architects.

Mr. Arthur H. Reid [*F.*], Hon. Secretary R.I.B.A. in South Africa, has compiled a "Retrospect of the Profession of Architecture in the Cape Province of the Union of South Africa," from which we give extracts as far as space permits:—

The first attempt to form a professional body in South Africa took place at Capetown in 1884, when, after many meetings of members of the constructive professions, it was decided to found a combined association, entitled "The Engineering and Architectural Association of South Africa," with domicile at Capetown. The foundation members were Messrs. A. W. Ackermann, J. W. Alexander, Thomas Cairncross, A. M. de Witt, H. S. Greaves [*F.*], E. B. J. Knox [*A.*], Geo. Ransome [*A.*], Wm. H. Reid, and Arthur H. Reid [*A.*].

Meetings were held, extending over two or three years, and attempts were made to secure Government recognition and incorporation, but without success, and when the discovery of the Transvaal goldfields took place in 1886 the Association dwindled away.

Attracted by the gold "boom," however, many young architects began to arrive and settle in Capetown, taking the places of those who had settled at Johannesburg. These, however, had not lost their interest in their old centre, and as the population began to increase in sympathy with that of Johannesburg it was felt that once again the profession needed a controlling body.

A meeting of all architects practising in Capetown or elsewhere was advertised to take place at Capetown on 28th April 1889, and as a result the following were appointed a committee to draft a constitution, viz., Messrs. A. W. Ackermann, Arthur H. Reid [*F.*], Chas. H. Smith [*A.*], Vixeboxe, and F. E. Masey as Secretary. On 3rd May 1889 another meeting was held, and "The South African Society of Architects" was founded.

The Transvaal war then broke out and a blight once more fell upon the aspirations of the profession, not, however, to last long, for immediately after the declara-

tion of peace a meeting of practising architects in Capetown was summoned and a fresh start made, with the following names enrolled as foundation members of the South African Society of Architects on 30th December 1901, viz., Messrs. A. W. Ackermann, Herbert Baker [*F.*], Thos. H. Hitchin, Milne, John Parker, Arthur H. Reid [*F.*], Chas. H. Smith [*A.*], and F. E. Masey [*F.*] as Hon. Secretary.

On 9th May 1902 a meeting of foundation members was held, and it was resolved to invite the following gentlemen to become members, viz. W. Adamson, J. W. Alexander, W. Black [*F.*], Curry, A. Forsyth, Gildard, F. K. Kendall [*A.*], W. Law, Geo. Ransome [*A.*], Robertson, E. Simpkin, T. A. Sladdin, J. C. Tully [*A.*], and A. M. de Witt.

A general meeting of the foundation members and the foregoing was held on 30th May 1902, and the following committee of organisation was appointed, viz. :—*Chairman*: Mr. Arthur H. Reid [*F.*]; *Committee*: Messrs. A. W. Ackermann, T. H. Hitchin, Geo. Ransome [*A.*], T. A. Sladdin, C. H. Smith [*A.*], and F. E. Masey [*F.*] as Hon. Secretary.

On 11th July 1902 a general meeting was summoned, at which the constitution and by-laws were laid upon the table. After discussion it was resolved, that in view of separate Institutes being started in the Transvaal and Natal colonies, the name of the Society be changed to "The Cape Institute of Architects." At this meeting the Council was appointed, with the late Mr. T. H. Hitchin as Hon. Secretary and Treasurer, and at a subsequent meeting on 11th September 1902 Mr. John Parker was elected President, and Mr. Arthur H. Reid [*F.*] Vice-President. This Council and officers continued in office and in perfect harmony without objection on the part of members until 1907, and the membership roll was increased by eighteen members.

On 11th February 1907 the Council were informed that the Royal Institute of British Architects had appointed Mr. Arthur H. Reid as their Hon. Secretary in South Africa.

On 27th June 1907 the Council considered a letter received from Mr. Arthur H. Reid, then in London, stating that he had approached the Council of the R.I.B.A. with a view to securing the alliance of the Cape Institute to that body, and presuming the Council would endorse his action. On 16th July 1907 at a specially convened general meeting of members, called to consider Mr. Reid's action, the Cape Institute decided that affiliation to the Royal Institute of British Architects was desirable, and instructed the Council to take the necessary steps to give effect to the resolution. It was further resolved that a cablegram be despatched to Mr. Reid according him the thanks of the Institute. At this meeting it was resolved that the Council redraft the by-laws and scale of charges to conform more closely with those of the R.I.B.A.

On 6th March 1908 a special general meeting of members was held, when it was formally announced that the alliance with the R.I.B.A. was completed. It was reported that the general conditions of building contracts as approved by the Cape Institute and by the Master Builders' Association should be accepted by members for a term of three years ending November 1911 as a trial.

In January and February of this year the Council was engaged, in co-operation with the Transvaal Institute of Architects, in discussing the draft of the Registration Bill that was in preparation by an Association of Transvaal Architects for presentation to the Legislature of the Transvaal Colony. (The Association of Transvaal Architects was chartered and registered by the Parliament of the Transvaal Colony in July 1909.)

PROPOSED AMALGAMATION OF THE THREE SOUTH AFRICAN INSTITUTES OF ARCHITECTS.

On 4th August 1910 at a general meeting of members it was reported that in July and August of last year Mr. Arthur H. Reid, acting on his own initiative, had induced the Transvaal and Natal Institutes to agree to amalgamate with the Cape Institute as one South African Institute in alliance with the Royal Institute of British Architects, and had further arranged with them that the Cape Institute, as the senior body, should be asked to prepare the necessary draft constitution and an Act of incorporation carrying registration for presentation to the Union Parliament as soon after its opening ceremony as possible.

Mr. Reid further reported that he had interviewed the Administrator as to the proper course to pursue, and, after explaining the position, had received that gentleman's approval of the proposal and his assurance of any help that may lie within his province.

The Council endorsed Mr. Reid's action, and on the 10th August 1910 met and considered preliminaries of the scheme for amalgamation of the three Institutes. It was resolved, if possible, to get a scheme ready for presentation to the members at the next general meeting, to be called for 18th October; and further that a congress of South African architects be held at Capetown in December next, when delegates from each Institute could meet and discuss the proposal in detail.

LEGAL.

Employment of Architect: Preparation of Plans and Drawings: Fair and Reasonable Remuneration.

J. E. YERBURY *v.* TOM WORTLEY AND RICHARD WORTLEY: HOUSE OF LORDS APPEAL.

Mr. John E. Yerbury, architect, of 3 Queen Street, Cheapside, the plaintiff in this action, whose appeal from the Court of Appeal to the House of Lords resulted last February in a unanimous decision in his favour, has courteously supplied the Institute with copies of the various papers prepared for the hearing in the House of Lords, together with a verbatim report of their Lordships' judgment. The R.I.B.A. Board of Professional Defence, considering it desirable that some record of the case should be given in the JOURNAL for the information of members, the subjoined report has been extracted for the purpose from the official papers above referred to.

The defendants were Messrs. Tom Wortley and Richard Wortley, and the action was first tried before Mr. Justice A. T. Lawrence in the King's Bench Division of the High Court in May 1908, occupying three days in the hearing.

The statement of claim alleged that in March 1904 a verbal agreement was made between the plaintiff and the defendants that in consideration of the plaintiff supervising the completion of a block of flats at Hampstead, herein referred to as Block A, at a small remuneration, the defendants would construct two other blocks of flats, Blocks B and C, and would employ the plaintiff in designing and supervising their construction at a remuneration of 5 per cent. on the cost. The construction of Block A was continued and

completed under the supervision of the plaintiff about the end of 1904. The plaintiff prepared designs for Block B, and such designs were prepared in reference to the intended later construction of Block C, which was to be built according to the same designs. The cost of Blocks B and C would not have been less than £48,000. The defendants did not proceed with the construction of either of the Blocks B and C, and in consequence the plaintiff lost the remuneration he otherwise would have earned, viz. £2,400, being 5 per cent. on £48,000. The plaintiff claimed, in accordance with the usual custom of architects and surveyors, that having prepared the designs, and the construction not being proceeded with, he was entitled to 2½ per cent. upon the estimated cost.

By their defence the defendants denied the alleged agreement and custom. The litigation, they said, had arisen out of a building speculation entered into between themselves and a Mr. Bell, architect. Bell was to be architect of the three Blocks A, B, and C, and was to receive 5 per cent. on the total cost. When Block A was about two-thirds completed differences arose between the architect Bell and the contractor employed for the erection of Block A, which culminated in an arrangement resulting in the withdrawal of Bell from the supervision of the building of Block A and the completion of the block under the supervision of the plaintiff. The defendants averred that no agreement, verbal or otherwise, was ever made with the plaintiff that he was to be employed as architect of Blocks B and C. The true arrangement was to be found in a written agreement, dated 26th July 1904, made between Bell and the defendant Richard Wortley, by which Bell was to prepare the plans, drawings, and specifications for Blocks B and C, and to receive 5 per cent. for doing so, and the plaintiff was to be appointed surveyor to superintend the completion of Block A and the erection of Blocks B and C in accordance with Bell's plans, drawings, and specifications, and to receive 1 per cent. out of the commission provided for Bell, and upon the completion of Blocks B and C a further sum of £450 out of certain other moneys payable to Bell by the defendant Tom Wortley. The plaintiff was not a party to this agreement, but the terms of it were drafted in consultation with him, and it represented the arrangement under which he entered into the transaction. Block A was completed in November 1904 under the plaintiff's superintendence, and he received the 1 per cent. in accordance with the agreement. Owing to financial difficulties, Blocks B and C were never erected. But for a period of about two years after the plaintiff had entered their employment, the defendants, and the plaintiff to some extent, were engaged in negotiating with a view to obtaining the necessary funds for the erection of these blocks. The plaintiff during this interval prepared with the knowledge of the defendants certain drawings in the expectation of their being accepted by the defendants in the event of Blocks B and C being proceeded with. These were the drawings referred to in the statement of claim. During the hearing counsel for the defendants stated that under the circumstances they were willing to pay a *quantum meruit* for the drawings plaintiff had prepared.

Evidence given by the plaintiff and by Messrs. H. J. Helsdon [*F.*] and E. S. Underwood [*F.*] disclosed the following facts: In March 1904 the plaintiff had an interview with the defendants at the offices of their solicitors, when the defendants told the plaintiff of their disagreement with Bell, and requested the plaintiff to supervise the completion of Block A in accordance with Bell's plans. At subsequent meetings the plaintiff stated that his fee would be 2½ per cent. of the cost of completing Block A, and the defendants agreed this was a reasonable charge. The plaintiff, some time between March and the 22nd July, entered upon the work. On the 22nd July the defendant Tom Wortley called at the plaintiff's office and asked him to sign an agreement under which the plaintiff was to receive 1 per cent. for the completion of Block A, no mention being made of Blocks B and C. The plaintiff objecting, the defendant assured him that they intended to get rid of Bell and that the plaintiff should take the place of Bell in the construction of Blocks B and C. Relying upon this assurance, the plaintiff accepted the 1 per cent. On the 26th July an agreement was entered into between Bell and the defendant Richard Wortley by which it was agreed that the plans, drawings, and specifications for Blocks B and C should be prepared by Bell, that the plans, having been submitted to the defendants, should be placed in the hands of the plaintiff for the purpose of erecting Blocks B and C, and that the plaintiff should receive for the work 1 per cent. upon the cost, together with a further sum of £450 upon completion. Although the defendant Richard Wortley told the plaintiff about this agreement, the plaintiff never saw the agreement until it was disclosed by the defendants in the course of the action. At an interview subsequent to that of the 22nd July the defendant Richard Wortley told the plaintiff that in the event of their being unable to get rid of Bell, and in the event of Blocks B and C being erected in accordance with Bell's plans, the defendant would pay the plaintiff for supervising the erection of the blocks 1 per cent. upon the cost of their erection and £450 on the completion of each block, but that if the plaintiff's plans were accepted the plaintiff would receive 5 per cent. The plaintiff prepared ten sheets of drawings to one-eighth scale, plans, sections, and elevations, full specification, and detail drawings. The plaintiff did not in any of these matters act as a volunteer. Evidence was also given showing that the plaintiff to the knowledge of the defendants had prepared plans for the approval of the freeholder; that one of the defendants had written a memorandum to the effect that the defendants had decided not to go on with Bell, and that the plans were to be prepared by the plaintiff; that on 7th April 1905, at an interview between the plaintiff, the freeholder, and the defendant Richard Wortley, the plaintiff having previously been instructed to prepare plans was definitely instructed to prepare contract drawings; that in various letters and interviews between the parties the plaintiff was treated by the defendants as preparing the plans, drawings, and specifications at the request of the defendants, and in no wise differently from an architect employed so to do. It was further stated that the plaintiff had been in communication about the plans with Mr. Riley, architect of the London County Council, and with one of his subordinates, and also with the District Surveyor, and that he had sent to Mr. Riley a site plan, a set of nine copies of plans, elevations, and various tracings, with an application for permission to build, &c. The plans were finally approved by the London County Council, and the plaintiff informed the defendant Tom Wortley of the fact by letter, enclosing for his signature a form of application for leave to build, which form, duly signed, the defendant returned to the plaintiff with a letter in which the defendant stated that he presumed the plaintiff would obtain the freeholder's signature. The freeholder demurred to signing the application form, being under the impression that it amounted to an agreement to commence building within six months. This circumstance was the subject of further correspondence between the plaintiff and the defendants and their solicitors, as well as with the freeholder and Mr. Riley,

and before the freeholder's objection had been overcome the scheme for building Blocks B and C was abandoned owing to financial difficulties. The plaintiff had done everything which an architect could do until his clients had sent to the London County Council the formal application for leave to begin building. The plans for Block B were prepared by the plaintiff so that by reversing them they would form the plans for Block C, but the contract drawings, elevations, specifications, &c., were only got out with reference to Block B. The plaintiff had been personally engaged upon the work for a period which he estimated at 1,330 hours. He had also employed draughtsmen to prepare the actual drawings, and his out-of-pocket expenses, irrespective of the ordinary office expenses, correspondence, stationery, stamps, &c., amounted to from £100 to £150. He contended that a fair and reasonable remuneration for his work would be as follows: Preliminary drawings, 1 per cent. of estimated cost of building; converting preliminary into working drawings, ½ per cent.; specification, 1 per cent.

At the trial the defendants by their counsel abandoned the contention that the plans, drawings, and specification were prepared by the plaintiff as a volunteer, and admitted that the only question to be determined by the Judge was the amount of remuneration to which the plaintiff was entitled in respect of them.

Mr. Justice Lawrence gave judgment for the plaintiff, holding that he was entitled to 2½ per cent. on £24,000, the estimated cost of Block B, and 1 per cent. in respect of the extra work involved in making the plans applicable to Block C.

The defendants appealed to the Court of Appeal, and the case came before Lords Justices Vaughan Williams, Buckley, and Fletcher Moulton.

A majority of the Court (Lords Justices Vaughan Williams and Buckley) held that there was no evidence of any binding agreement that, in the event of Blocks B and C being erected, the plaintiff should be employed as architect in respect of them; that the plaintiff was aware of the terms of the agreement between the defendant Richard Wortley and Bell dated 26th July 1904, and the agreement between the plaintiff and defendants was only that, in the event of Blocks B and C being erected, the plaintiff should be employed as surveyor in respect of them; that in the absence of an agreement to employ as architect, the custom of architects—*i.e.* that when an architect has prepared preliminary sketches, working drawings, and specification, he is, if the building is not proceeded with, entitled to 2½ per cent. upon its estimated cost—could not apply, and that in these circumstances the plaintiff was only entitled to remuneration upon a *quantum meruit* for the work done by him at the request of the defendants. Their Lordships held that, accepting the evidence of the plaintiff's witnesses, the proper rate of remuneration was on the basis of 1 per cent. for preliminary drawings, ½ per cent. for converting the preliminary drawings into working drawings, and 1 per cent. for specification; that the plaintiff had not converted his preliminary drawings into working drawings, and that he had not prepared a specification, or, alternatively, had not been employed to do so; that the plaintiff was therefore entitled to 1 per cent. only on £24,000, the estimated cost of Block B—viz. £240; and that reasonable remuneration in respect of the extra work done by the plaintiff in making the plans of Block B applicable to Block C would be £110. In the judgment of their Lordships, therefore, the plaintiff was entitled to £350 only, and not to £840, as decided by Mr. Justice A. T. Lawrence.

Lord Justice Fletcher Moulton disagreed with the other members of the Court, and held that the judgment of Mr. Justice A. T. Lawrence was right and ought to be affirmed.

The majority of the Court being against the plaintiff, the defendants' appeal was allowed, and an order was made in accordance with the judgment above outlined.

The plaintiff appealed to the House of Lords, and the appeal was heard before the Lord Chancellor, Lord Macnaghten, Lord Atkinson, Lord Collins, and Lord Shaw of Dunfermline.

The Lord Chancellor, on 8th February of the present year, delivered the following judgment:—I greatly regret that a case of this kind should have taken so long a course, and that it should have been necessary to bring it to this House, for it is the interest of the State that there should be an end of litigation instead of constant appeals, and I am afraid that the costs of these proceedings will fall very heavily upon some of the parties to them.

As regards the first appeal, it turned upon a mere question of fact, and two Judges were of one opinion and two Judges of another; but the learned Judge at the trial expressed an opinion in favour of the plaintiff. I do not wish to repeat (for the Court of Appeal expresses the same view) the opinion that I have more than once expressed—that the Judge who hears the case at the trial enjoys very great advantage for its determination. He is not only better able than any Court of Appeal to form an opinion upon the credibility of the witnesses, but he can also note the contentions actually made upon either side with accuracy—a point upon which there is sometimes controversy in the Court of Appeal, as there has been in this case—and, what is equally important in some cases, he can perceive at first hand, so to speak, on the spot, the bearing of each piece of evidence in what is often a somewhat tangled narrative and is not given consecutively by one witness but contributed to piecemeal by various witnesses who have taken part in the transaction. Accordingly, when there is a difference of opinion upon matters of fact between the learned Judge of first instance who has heard the case with those advantages on the one side, and any Court of Appeal upon the other, I feel that any Court of Appeal, including this House, stands at a considerable disadvantage.

Now in regard to the facts I will, out of my profound respect for the learned Lords Justices who held a different opinion, say a few words upon the details. To my mind it is unimportant whether this gentleman was a volunteer in what he did or not, although in fact he denied that he was a volunteer and the contention that he was so was explicitly abandoned. He is entitled admittedly to be paid. What is he to be paid for? I think he was to be paid for the plans, the detailed drawings, and the specification. It is said that he was not entitled to be paid for the specification, but I find that the plaintiff and his witnesses declare that this specification was necessary and was used by the local authority. No contradiction of that was attempted, and it was not said by the defendants that they were unaware of what probably they would know, namely, the use of an abridged specification before the local authority, and I cannot find in the trial from the beginning to the end a trace of any attempt to distinguish between the plans and drawings on the one side and the specification on the other as work for which the plaintiff ought to be paid.

Now the next question was how much was to be paid for the labour which the plaintiff bestowed. The case on his behalf was put in two ways: In the first place that there was an agreement that if his plans were accepted he was to receive the sum of 5 per cent. As a matter of fact, if I was called upon to decide it I should say that that contract was proved and that his

plans were accepted, and that had the work continued he would have been entitled to 5 per cent.; and the work not having been proceeded with he claimed he was entitled to 2½ per cent. on that contract; but also, I think, on the *quantum meruit* he would be entitled to the same sum, according to the evidence which was given and which there was no attempt to contradict. I know from experience that when a person who is in a profession or in any particular vocation is bringing an action he can easily get witnesses to prove a scale of remuneration, but it is very difficult to get someone in the same profession to prove the contrary. Making all allowances for that, I think there was ample evidence upon which Mr. Justice Lawrence was entitled to act, that the 2½ per cent. scale applied and ought to be paid to the plaintiff. Mr. Justice Lawrence discounted that evidence; he gave something less than 2½ per cent. upon Blocks B and C taken together. Possibly he had in his mind that there were other services which would not be covered by the commission charge, which admittedly had been rendered by the plaintiff to the defendants. Or perhaps I ought not to say "admittedly," because admissions have not been very copious in the course of this litigation, but which were proved, at all events, to have been rendered, and as to which no contradiction was attempted.

Now that being the case, Mr. Justice Lawrence awarded a sum of £840. The Court of Appeal reduced it to £350 on, I think, a misconception of the evidence. I think the majority of the Court of Appeal considered that the specification was not ordered or needing to be paid for, but I think that was an erroneous conclusion. I think also they considered that Mr. Helsdon had fixed 1 per cent. as the right sum to be paid for the work which was ordered. I think he said nothing of the kind. According to his evidence, if that is to be conclusive, appellant would have been entitled to more than Mr. Justice Lawrence awarded.

I have, as I said, referred to these things out of the great respect which I have for the learned Lords Justices from whose opinion I am constrained to differ, but in the conclusion it seems to me that the decision of Mr. Justice Lawrence was an eminently sensible, just, and satisfactory decision, and I also think it ought to have been a final decision.

Lords Macnaghten, Atkinson, and Collins expressed their entire concurrence.

Lord Shaw of Dunfermline: I entirely agree, and I only wish to add one observation, which is that in looking through these judgments I am much impressed by the language and treatment of the case used by Lord Justice Fletcher Moulton. In the earlier portion of his judgment there are remarks as to the proper function of the Court of Appeal, in view of the fact that there was in this case a direct conflict of testimony; and there is one remark in particular to which I wish to give my express adhesion, and in which the learned Lord Justice said: "There is nothing here which would entitle us not to give that respect to the decision of the judge who sees the witnesses in this respect that the Court of Appeal, I think, always ought to do and I think practically do." I apprehend, and with satisfaction, that that accords with the observations of the Lord Chancellor on the point of procedure.

Another appeal arising out of the same litigation, and in which the same parties were concerned, was then dealt with by the Lord Chancellor and decided in favour of the appellant, Mr. Yerbury.

The orders appealed from in both actions were thereupon reversed, and the appellants' costs in the Court of Appeal and the House of Lords were ordered to be paid by the respondents.

MINUTES. II.

At the Second General Meeting (Business) of the Session 1910-11, held Monday, 21st November 1910, at 8 p.m.—Present: Mr. Leonard Stokes, *President*, in the Chair; 55 Fellows and Associates (including 12 members of the Council), and 5 Licentiates—the Minutes of the Meeting held 7th November having been printed in the JOURNAL were taken as read and signed as correct.

The Hon. Secretary announced the decease of the following members since the last General Meeting in June—viz. Henry Spalding, *Associate* 1873, *Fellow* 1892; John Young, *Associate* 1860, *Fellow* 1892, *Retired Fellow* 1902; William Banks Gwyther, *Associate* 1896, *Fellow* 1898; Oliver Caldwell, *Fellow* 1892; Edward Boardman, *Fellow* 1871, *Retired Fellow* 1907; William Seth Robert Payne, *Associate* 1882; Albert Emanuel Pearson, *Licentiate*.

The decease was also announced of John Thomas Christopher, *Associate* 1857, *Fellow* 1877, *Retired Fellow* 1902, for many years a member of the Council of the Architects' Benevolent Society, and a generous subscriber to its funds; Alfred Hessell Tiltman, *Associate* 1879, *Fellow* 1888, who had contributed an important Paper to the Institute Transactions on "Public Baths and Washhouses"; Ralph Selden Wornum, *Fellow* 1888, for many years a member of the Board of Examiners (Architecture), to the work of which he had rendered much valuable service.

On the motion of the Hon. Secretary a vote of sympathy and condolence was passed to the relatives of the late Fellows, Messrs. Christopher, Tiltman, and Wornum.

The Hon. Secretary announced the receipt of books presented to the Library, and on his motion a vote of thanks was passed to the donors, especially to Mr. Archibald M. Dunn and Mr. Francis D. Bedford, for large gifts to the Reference and Loan Departments of the Library of important standard works on Architecture.

The following member and Licentiates attending for the first time since their election were formally admitted by the President—viz. Cecil Hamilton Simpson, *Associate*; Henry Elwig, jun., Thomas Frank Hawkes, Collings Beatson Young, *Licentiates*.

The Secretary announced the results of the Statutory Examinations held by the Institute in the month of October.

The Secretary announced that by a resolution of the Council under By-law 22, the following gentlemen had ceased to be members of the Royal Institute—viz. William Henry Duffield, *Fellow*; Percy Aspden Horrocks, William Charles Hulbert, Thomas James Lainson, William Slater, John Taylor, Charles Arthur Ford Whitcombe, *Associates*.

On the motion of the President on behalf of the Council, it was

RESOLVED, that the following additional By-law be submitted for the sanction of the Privy Council, viz.: "The Royal Institute shall not make any dividend, gift, division, or bonus in money unto or between any of its members."

The President having formally presented the new draft Regulations of the Institute for Architectural Competitions, which had been approved by the Council, the Regulations were discussed and various amendments proposed and agreed to. Whereupon it was

RESOLVED, that the new draft Regulations of the Royal Institute of British Architects for Architectural Competitions be adopted as amended, and issued as an Institute Paper.

The proceedings then closed, and the Meeting separated at 10 o'clock.

THE ICONOCLASTS. FROM THE PAINTING BY CHEVALIER FORMILLI EXHIBITED IN THE ROYAL ACADEMY 1909.

THE MONUMENTAL WORK OF THE COSMATI AT WESTMINSTER ABBEY.

By Chevalier Professor C. Formilli.

Read before the Royal Institute of British Architects, Monday, 28th November 1910.

"AVE, Cæsar, Imperator!" This was the cry that burst from the lips of young and old, rich and poor, patricians and plebeians at the news of Cæsar's return to Rome at the head of his glorious and all-conquering legions. And how shall we make even the cold stones on which his golden feet shall tread, and the triumphal arch under which he shall pass, salute him with indelible words? Such was the question that each senator was anxiously asking of the other, those same senators who were so soon to stain their togas with his royal blood.

Orders were given, and the architects of Rome made the cold stones speak. They spoke with words of roses, they spoke with words of gold-dust and of emeralds, but above all they spoke with words of mosaic. And after his triumphal march through the town the roses were picked up and tenderly kissed by the vestals, the gold-dust and emeralds gathered up by the plebeians and the beggars, but the mosaic had to be left there because imbedded in the hard stone, and is still there to-day crying out to all generations "Ave, Cæsar, Imperator!" And Cæsar, still more struck than before by the magnificence of that art, summoned to Rome a great many more Greek artists, to such an extent that in a very short time mosaic was to be found everywhere throughout the great city, even in the portable floor of Cæsar's tent, which was always carried after him with religious care wherever he went to plant the Roman Imperial Eagle.

Very little can be said with precision of the origin of mosaic, but we cannot greatly deviate from the truth if we attribute its birth to some century before Cæsar's time, and the place of

its perfection to Greece. The brilliancy of the colour, the intricacy of the pattern, the monumental aspect of the style admits of no doubt as to its Oriental origin. Soon after Rome had adopted this other Greek fashion of art and shaped it to its own requirements, mosaic could be found everywhere; it spread throughout the Empire almost like wild-fire.

If Athens taught that art to Rome, Rome taught it to the world; because wherever Rome planted its Eagle there mosaic is to be found; in fact, there is Roman mosaic in Germany, in France, in Spain, in Carthage, and in England. It could be said that it began with the "Ave" and the "Salve" at the door of the Emperor to greet the Ambassador and the senator, soon finding its way to the atrium, the porticos, the triclinium, the public baths, to the libraries, to the apartments of the matrons, to those of the vestals, to the temples of the false gods, and finally, after the decline of the Roman Empire, mainly caused by the removal of the capital to Byzantium, it revived with phenomenal energy, and spread to the House of Christ, reaching its glorious apex with the representation of God made man.

If this noble art died out of Rome as a pagan art, its resurrection there was Christian, bringing with it all the exuberance of colour and the fantastic richness of the East. From the East came the delicacy of the innumerable patterns, the gold and the blue, to replace the simplicity of the cold black and white tesseræ of the Latins.

No doubt one of the greatest of all promoters in the new Christian style was Constantine the Great, who made Byzantium his royal residence, calling it Constantinople, thus adorning it with all the Oriental splendour imaginable. And justly we could salute him as the people of Rome saluted Cæsar, saying, "Ave, Constantine Pontifex Maxime Artis Benefactor!" Blessed be the moment in which he read in the heavens the words of God, "In hoc signo vinces," for, if he had not destroyed the power of Maxentius at the gates of Rome, we should never have heard of the greatness of Byzantium.

But although Constantine promoted and encouraged with all his power this new art in Constantinople, he was not the originator, for that Greek splendour had planted its roots there years before. A great many palaces and churches were built during his reign, but the art of mosaic reached the highest point only during the reign of the Emperor Justinian, about the year 537, when St. Sophia was built by his orders, and the highest artistic talent of the epoch employed. It is therefore to the East that we owe more especially the art of mosaic and that of painting; and to Italy the honour of being for centuries the faithful custodian of that inheritance; adding to it as they did the national artistic traditions of the past.

With the new Greek religious sentiment and a new religious school of art, the artists conceived also a new type of man. The old Athenian athletic type disappeared and was supplanted by another one—thin, rigid, and almost semi-barbarous. It seems as if those artists concentrated all their attention on the faces and draperies, the last being always extremely rich, as also were their crowns, sceptres, thrones, and all ecclesiastical and domestic furniture. The faces in their pictures became all of one type, representing the artist's ideal of what men should be, and from this arose the necessity of writing the names of the personages under their feet. Emperors, angels, prophets, saints, the Virgin and Christ were all one type, the type of severity. No mercy could be expected from their Christ, but only justice. Their Christ was the antithesis of the Christ of the Latins, who was always suffering, humble, compassionate, from whom all men could expect forgiveness unto "seventy times seven." It became an epoch of religious luxury, of decoration almost at war with the coldness of the white marbles and bronzes of the pagans. To them, no colour meant no life, and we could say almost no salvation! For this reason we see them adopting almost exclusively coloured marbles for their mosaics. Thus we may say that the Byzantine school was one of painters, more than one of marble workers; they painted with coloured stones instead of brushes and colours. The mosaic panels in San Vitale

SAN CLEMENTE, ROME. FROM THE PAINTING BY MRS. ALICE FORMILLI.

of Ravenna, and the angels on the dome of the sepulchre of Galla Placidia, also in Ravenna, as well as the long friezes in Santa Apollinare, are sufficient to prove the assertion.

That superb scheme of colour of Galla Placidia's tomb was soon recognised as such by the great master Raphael; in fact, after his visit to Ravenna he adopted the same scheme of colour for his Loggia in the Vatican as did Pinturicchio in the library at Siena, the Borgia rooms in the Vatican, as did hundreds of other artists of that and later periods of the Italian school. Once this great colour fashion had started nothing could uproot it, although many attempts were made to return to the simplicity and coldness of colour of the primitive Latin church.

We should never forget how greatly we are indebted to the Byzantine school of art; for during the first centuries of the new Empire and also during the insurrection against the adoration of the images led by Leo, who, with his barbarous legions of iconoclasts, destroyed the most beautiful works of art, a great many Greek artists left their country and were scattered over different parts of Europe, chiefly over Germany and Italy, where they formed the Rhenish school which preceded the German one and the primitive Italian school, which was without doubt the foundation stone of the Golden Age of the fifteenth century, which shaped the art of all Europe.

Without the artistic invasion of colour from the East the world would never have seen the glorious St. Mark of Venice, the immortal Ravenna, the basilicas of the Eternal City, nor the gems of Westminster; and without the St. Mark of Venice there would have been no Tintorettos, no Giorgiones, no Veroneses, no Titians, no Venetian school. And where should we be had the Venetian school never existed? Once that art was introduced into Italy there was no other art left worth speaking of. The churches, the public monuments, and everything to which art was applied became Byzantine, to the point that when later on, in 801, Charlemagne was going to be crowned by the Pope in Rome his celebrated vestment, now among the treasures of the Vatican, was Byzantine, as no other style could be found worthy of his royal shoulders. Besides the importation of the new Christian art, another great factor forced the Italians to abandon the old Roman art; and this was the barbarous invasion of the Goths and others, when they cut the old statues to pieces to pave the roads, or to build walls of defence against the enemy; and with the disappearance of the monuments and the false gods, disappeared also the art of their fathers, leaving that same Rome which taught all nations a hideous heap of ruins, a camp of desolation! The Queen of the World had become a quarry, where for a small piece of silver the builder could carry away loads of heads, legs, and arms of Venuses, of Joves, and Mercuries!

But Rome was destined to have another artistic resurrection, and soon became the centre of the Byzantine school of Italy. With the same promptitude with which pagan Rome absorbed and assimilated the arts of Athens, to the point of being almost ashamed of talking Latin, at this time she absorbed with fanatical joy the religious art of the East, and in that art soon became greater than her teacher.

Like all other social evolutions, the Mother Art gave birth to other arts in Rome, the first of these being the art of the Cosmati, or marble workers, with which I shall now deal exclusively. The Cosmati were art workers of Rome, and, like the Della Robbia, carried on their work for generations. In the history of the past we may see that if Peter was a stone carver his son Paul was also a stone carver; and in the same way, in this road were only leather-workers, in that one only sword-makers—as in Lombard Street were only Milanese bankers and Milanese moneylenders. The founder of the family was a certain Laurentius, whose son Jacobus Cosmati did work in St. Saba in Rome in the year 1205, and soon this family of art workers increased, and later on we see the names of Odericus, Petrus, and many others. They carried on with religious fidelity their art, improving year by year their work, and increasing their reputation, so much so that their fame quickly spread even as far as Westminster. For a church to possess a floor, a pulpit, a cloister, or even a column only, decorated by the Cosmati

was almost as precious as to possess a relic of a saint. In fact, that family had the reputation of working more for God than for money, such was the religious feeling that they put into every piece of their work. The Cosmati were not only architects of great repute, colourists as great

VESTMENT OF CHARLEMAGNE, PRESERVED IN THE VATICAN. FROM THE PAINTING BY CHEVALIER FORMILLI.

as Titian, but they were marble carvers such as the world had never seen before. And they worked on their knees as Beato Angelico did before his frescoes. They made the sign of the Cross at the beginning and end of their daily work, and instead of whistling the popular airs of

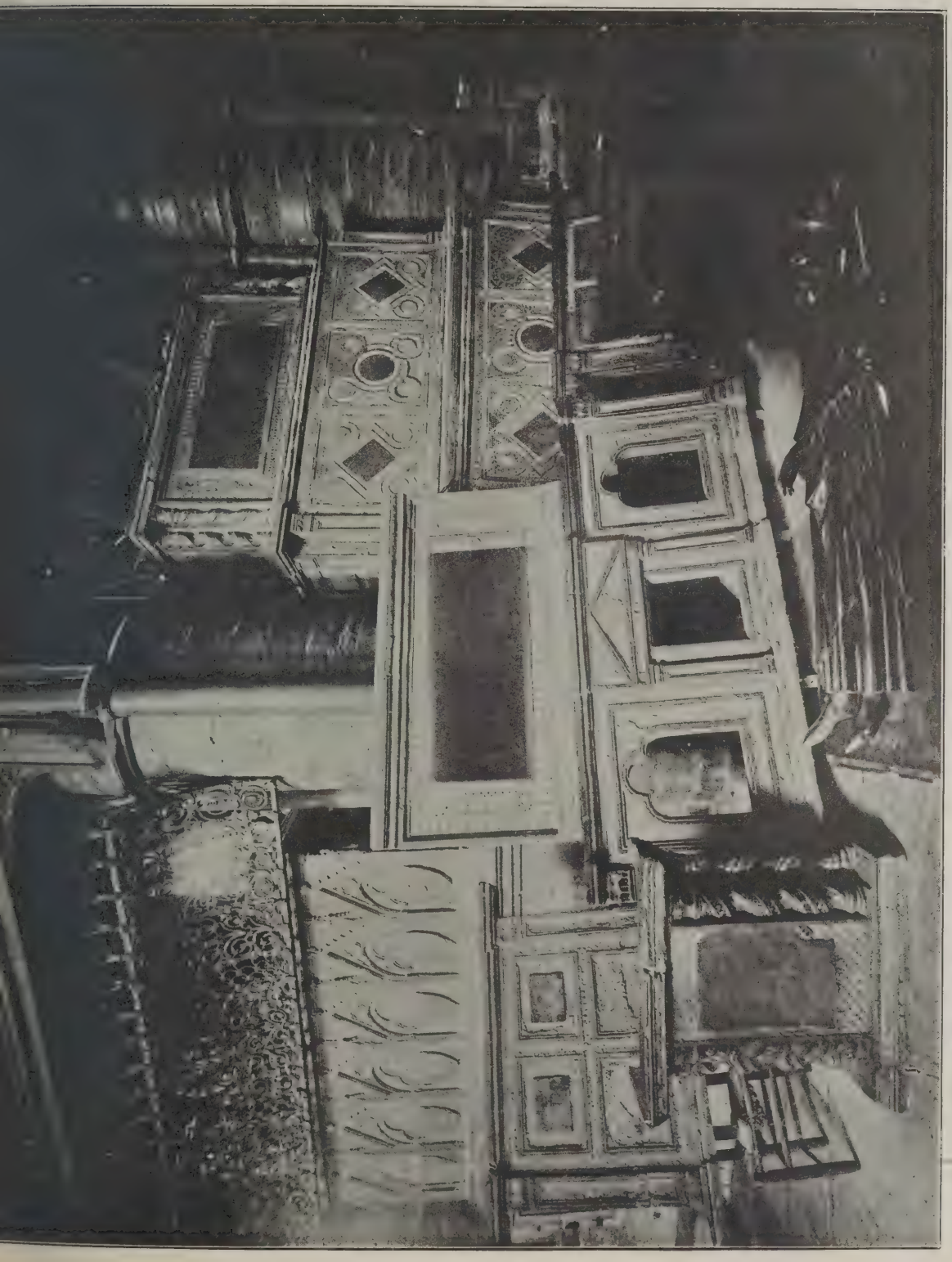
the time, they sang hymns of praise to the God for whom they worked. We may see from the archives in the monasteries that they received money, but very probably the settlement of their accounts was made by promises of masses for the repose of their souls after death; in fact, only men who worked for God could have done the work they did.

At the time of great religious zeal in England a king died whose works had been so great and good that all men called him Saint. That King was Edward the Confessor. And who could be more worthy than the Cosmati to make the tomb to receive his bones? Consequently they were invited to London at the time of Henry III., and they must have been greatly pleased to come and do honour to the saintly king. They brought with them their stones and their tools, and after a long and dangerous journey were most probably received by the Abbot at Westminster, at which place they continued living and working for some years. From certain records we see how Richard de Ware, then Abbot of Westminster, himself visited Rome, whence he brought back some of the rarest jaspers and marbles.

The shrine of Edward the Confessor can be described as a monument without any architectural pretensions whatever. It is composed of an oblong block of marble resting on a step, with three niches cut out of each of the two longest faces, and with a large cornice on the top supporting the sarcophagus containing the body of the King. The whole surface was once encrusted with the most sumptuous mosaic work of original patterns, generally on gold background. Rich coloured square or round stones, of verde antique and porphyry, made the centres round which the various patterns circulated. Porphyry, cipollino, alabaster, yellow antique, malachite, and other precious stones were all employed in making up the geometrical patterns. It is absolutely surprising the skill with which the small tesseræ or cubic pieces of stone were embedded in the cement, catching the light according to the will of the artist, and for the benefit of the general effect. Unfortunately, in this tomb very little mosaic is left to convey fully to us the great ability of the artist, and one of the most remarkable features of the work is the great variety of the patterns in all the panels. The creative power of those artistic minds must have been almost inexhaustible. You can easily detect that each of these patterns has been invented on the spot and designed with the chisel straight on to the stone itself. This monument has most unfortunately gone through the greatest vicissitudes imaginable, for first it was robbed of everything that could be turned into money by Henry VIII., then pulled down altogether. It was re-erected in 1557 and the pieces put up wrongly, and then robbed of all the remaining mosaic work by devoted pilgrims, who looked upon a tessera of mosaic as a relic of the Saint. But the last, and by no means the least, of the damage was done when they attempted to restore it to its primitive magnificence by filling up with plaster the spaces where mosaic had once been, and painting it over with oil colours—a sort of imitation of the original work. Fortunately, time, and above all the devotional habits of the pilgrims of rubbing rosaries on the monument, rubbed off the imitation of mosaic, thus leaving only the plaster on which it was once painted.

It would be most interesting to know if the six niches of the monument were purely a decorative idea or a necessity suggested to the artist by the Abbot himself. After hearing of the use made by the pilgrims of these niches one is inclined to think that they were created for a direct purpose, and not merely for decoration. Their faith in the miraculous power of this Saint was so great that they believed all maladies would be cured by sleeping the night in the niches. We can picture in our minds the lame, the blind, whether prince or beggar, anxiously waiting the morning to find himself freed of his infirmities.

The monument of Henry III. is composed of two sarcophagi, one over the other, the top one containing the body of the King and the lower one that of Queen Eleanor, his wife, with a magnificent recumbent bronze figure of the King, by a certain Torel, surmounting the whole [p. 79]. Although that figure is not the work of the Cosmati, and should not be dealt with in this Paper, it is certainly one of the finest things of the kind in existence. Its great beauty had never been



CHEVALIER FORMILLI'S REPRODUCTION OF TOMB OF HENRY III. THE TWO PANELS ABOVE TO THE RIGHT ARE PARTS OF THE ORIGINAL MONUMENT.

EDO CRIS REX EDWARDUS NON MORT EST

SHRINE OF EDWARD THE CONFESSOR: REPRODUCTION OF CORNICES AND COLUMNS.

CHEVALIER FORMILLI'S REPRODUCTION OF MOSAIC FLOOR IN THE SANCTUARY.

fully realised until the recent reproduction, because its height from the ground made it difficult to see; and I am glad to have had the honour of directing the first reproduction of that work. Fortunately, the position of the monument is such that only three of its sides could be reached by the hands of the desecrators, and consequently three of the most important panels have been partially preserved in their primitive state. The two biggest panels of the top part are decorated with sumptuous slabs of porphyry. The slab on the best preserved side is surrounded by a magnificent mosaic pattern of gold and coloured stones; the lower panel is still more important in design, the mosaics being quite marvellous. Nothing more wonderful of the kind has ever been done; one could call it the summit of the mosaic art. Neither Rome nor any other city of Italy possesses another panel of equal magnificence. We could say with the Latins, "Non plus ultra."

EFFIGY OF HENRY III. ON TOMB.
Reproduction by Chev. Formilli.

Another interesting monument, although of much less importance, is the little one to the children of Henry III. It is simply a sarcophagus half imbedded in the wall, showing only one front and the top, which is beautifully decorated with a pattern of mosaic in gold, white, and brown. The mosaics on the other sides have completely disappeared. This monument was originally placed in the Sanctuary with all the other royal monuments, but was removed to make room for some more important royalties. Once it must have been a little gem.

Equally interesting is one of the two slabs of marble in the floor of the Sanctuary containing the remains of John and Margaret, attributed to the Cosmata Petrus. Only a very little of the primitive work has been preserved, and this is a geometrical pattern of white and red mosaic framed by brass borders and letters.

The Cosmati did not limit themselves to monumental work, but also did pavement mosaic of equal importance. Their work is often wrongly called "Opus Alexandrinum," instead of "Opus Romanum" as they themselves called it, the former being the name given only to the previous mosaic pavements of earlier Christian art.

The pavement around the shrine of Edward the Confessor is by Odericus, and no doubt is the most uncommon of the kind ever seen. In this pavement there is not the usual stone framework which one is accustomed to see in mosaics of the period; it seems as if the pattern were imbedded into one plain floor of stone. The pattern, although purely Byzantine, gives the impression of being in arabesque. No pavement of this pattern has ever been done before. It has been greatly damaged, and is now covered with oilcloth to preserve it from further destruction.

The other pavement in front of the altar is the work of Petrus Civis Romanus, and covers up almost the whole of the Sanctuary floor. It is a most remarkable work of ecclesiastic pavement. It may be said that Petrus never did anything so sumptuous in design and colour as that. The human mind will never be able to conceive a more wonderful work. The design is made

up principally of circles intersecting each other, and then resolving into square and rectangular forms; each square and circle is filled up with innumerable smaller designs made up of tiny pieces of mosaic. The grouping of the colours and the rest, given at intervals, is so judicious, producing such an exquisite harmony of colour that nothing better could be produced by the brush and palette. When it was in better preservation it must have been remarkably striking, as even Holbein selected it as a model for the foreground of his picture now in the National Gallery, called "The Ambassadors."

Another important work done in England under the title of "Opus Alexandrinum" is a pavement in Canterbury Cathedral, although this work in later centuries has been a great deal restored and a sort of border of majolica tiles added to it.

This completes the list of the only works of the Cosmati school in England; unfortunately their example of colour in architecture has not been followed up in this country as much as in the South of Europe, although some few attempts have been made to revive it from time to time without much success. This is a great loss, as colour in architecture is almost as indispensable as form. The Greeks and many other nations knew this, to the point that a temple was seldom erected to a god without the use of colour. When colour could not be represented by stones, painting was largely employed.

And now allow me to conclude by giving expression to the conviction I have in my mind that the colour of the tomb of Edward the Confessor attracted almost as many pilgrims as the virtues of the King himself. A cold grey stone, even with a crown and a sceptre engraved on it, could not have spoken so loudly of the Saintly King as the gold and blue, the red and the purple of the mosaics that covered and adorned so wonderfully his mortal remains.

It may be of interest to note that in connection with the great Art Exhibition to be held in Rome next year, where England, I am sure, will make a sumptuous show of its work, a new museum will be opened, called the Marmorari Romain, or the marble workers of Rome in the thirteenth century. That museum will be situated in the Castel St. Angelo, formerly the sepulchre of the Emperor Adrian, afterwards the refuge of the Popes, and subsequently the political prison where Benvenuto Cellini was incarcerated.

I was asked by the Italian Government to direct the work of reproduction of the Cosmati monuments, which I did with the greatest pleasure, thinking to render a good service to my native country by showing the work of these great artists at Westminster to those Italians who are not privileged to visit this enchanted land of liberty and progress, a land that has always been ready to recognise talent, be it English or foreign. The work was long and difficult, and would have been much more so but for the extreme forbearance and courtesy of the Very Rev. Dean Robinson, and of the architect, Professor Lethaby, to whom art is so much indebted.

As I have already said, the work of the famous Dalmatic of Charlemagne, preserved in the Vatican as one of the greatest artistic treasures, was brought over to Rome from Constantinople. Although done with needle and silk only by some simple nuns of Constantinople, it is the greatest monument of Byzantine art in existence. The subject represents Christ seated on the Universe, with the Virgin and St. Joseph on either side, surrounded with a glory of angels, saints, and martyrs. Over the figure of Christ may be noticed the Cross, with the emblems of the Crucifixion and the sun and moon. At the lower corners of the vestment are St. John the Baptist, and Christ calling the little children. Round one shoulder is represented the Communion with bread described by the Greek word for "eat," while on the other is the Communion with wine indicated by the Greek word for "drink." The front side of the Dalmatic (which is not here illustrated) is of equal interest both in conception and treatment.

DISCUSSION OF THE FOREGOING PAPER.

Mr. Leonard Stokes, *President*, in the Chair.

Professor W. R. LETHABY [*F.*] said he was glad to have been asked to propose a vote of thanks to Cavaliere Formilli for his interesting Paper bringing to their notice a remarkable series of Italian works at Westminster, and at the same time he wished to congratulate him on his wonderfully accurate copies of those works. The Presbytery pavement in its general lines resembled several Italian examples, but it was richer, he believed, than any other known in having panels of glass mosaic. The second pavement was not very like any known example, being composed of what he might call a guilloche of circles. A part of the pavement at Sta. Prassede, however, had a good deal of the unit of design, which was repeated all over the Westminster pavement.* On the top of the little tomb of Princess Catherine there was a stone which was so irregular and so far from materially precious that he thought it must be a relic—possibly a stone from the Mount of Olives. He hoped that one result of showing Cavaliere Formilli's facsimiles in Rome would be that style relationships would be noticed with other work which might identify the artists who wrought them with certainty. What we knew at the present time was this: the Presbytery pavement was signed Odericus and dated 1268. The basement of the shrine was dated 1279, and signed Petrus. At Viterbo there was a papal tomb of Roman mosaic work, and according to an old writer there was an inscription on the wall beside it—*Petrus Oderisii sepulchri fecit hoc opus.* It had been suggested by Mr. Frothingham that the Petrus and Odericus of the Westminster mosaics were two names for one and the same artist, this Pietro Oderisio. It was a striking coincidence, and it seemed probable that there was some direct relation between the two works.

His Excellency the ITALIAN AMBASSADOR (the Marquis Imperiali), rising at the invitation of the President, said he should like first to express his best thanks for the pleasure the Institute had afforded him by inviting him to hear the interesting Paper read by his distinguished countryman Chevalier Formilli, and to view the interesting lantern views of monuments he had been accustomed to see from his youth. In the second place he wished to take this occasion to acknowledge publicly his personal gratitude, as well as the gratitude of the Executive Committee of the Rome Exhibition, to the Dean of Westminster and Professor Lethaby for their extreme kindness in allowing Chevalier Formilli to proceed with the reproduction of those remarkable monuments in the immortal Abbey of Westminster. They had by so doing given proof of their interest and sympathy in a matter which deeply concerned his countrymen—viz. the preparations for the Exhibition upon the success of which Italians had set their hearts. The Exhibition to be held next year in the immortal city of Rome, in the capital of the kingdom of Italy, had a special meaning for Italians, for it was to commemorate the fiftieth anniversary of the foundation of a new, free, and unified Italy. Therefore this contribution of English art was a new testimony to that sympathy and that moral support which Italy had received from Great Britain in the time of trouble, which Italians had never forgotten and could never forget, and which had been the basis and the foundation of that friendship and sympathy which had so long united the two countries.

Professor BERESFORD PITE [*F.*] said the debt of gratitude we were under as a nation and as a profession to Professor Lethaby for incessantly revealing to us the wonders that lie so near to our own doors, at Westminster, had been accentuated that evening. We had always felt the debt that Westminster owed to Torregiano for the Renaissance effigy of Henry VII. and his Queen, and for the wonderful effigy of the Countess of Richmond; and Chevalier Formilli had brought to our attention that evening an earlier link in the remarkable history of Westminster with Italian art. This subject was highly suggestive, and enlarged our conception of the current of mediæval thought in England, when we found that Henry III. for the central shrine of his great Abbey turned to Italian art. At that period, he imagined, there was a considerable element of novelty in the idea. Two centuries later we had begun to recognise that Italy was to be the fountain of inspiration in art, but in the thirteenth century the idea in England was fresh. These interesting works, the shrine and the monument, indicate to us the divergence of the streams of Gothic art. There was no doubt that their common source was the East, and that we drew here in England, through the roads that led from Rome as well as to Rome, our ideas of church arrangement just as we derived ecclesiastical orders. The clergy were probably vehicles for conveying the Italian plan of church decoration to craftsmen and tradesmen and art workers who never left our shores. From the eleventh century onwards these craftsmen and tradesmen developed with rapidity and extraordinary skill the mediæval architecture which culminated at Westminster Abbey; and at West-

* This comparison would seem to date Sta. Prassede.

minster Abbey one could not but feel proud of the dignity of our insular art, of its specially English characteristics and success. But we had been reminded that evening of the intimate connection of this culminating period in English thirteenth-century art with the work of a group of Italian artists in this shrine and the tombs, which was interesting, because both the tomb and the shrine seemed to stand comfortably, harmoniously, and pleasantly in the thirteenth-century apse, speaking a different tongue, echoing a different music, but at the same time with a strangely subtle and harmonious expression of the same mediæval ideal and limitations. Not only the divergence of the streams which met in this spot was marked by the different character of the tomb and of the architecture, but their different atmospheres. He could only at the moment think of one or two smaller shrines, for instance the Shrine of St. Alban and St. Amphibalus at St. Albans, English of about the same period, in which all the intention and all the sphere of the artist was the development by traceries and recessings of the qualities of light and shade. In the work of the Cosmati in Westminster we found that very little value was attached to light and shade at all. In the drawing of those curious writhing shafts, beautiful exhibitions of the highest technique of charm of surface, the flat surface mosaic and colour, the Italian ideal was side by side with the English. We only had to turn our eyes to the tomb of Aymer de Valence outside in the Sanctuary to see in the next generation the opposite method of thought of the English mediæval artist to the Italian. He did not know whether he was wrong in suggesting that there were traces of English contemporary influence even in the design of the tomb ; there was the peculiar treatment of the trefoil springing which seemed to be drawn from the contemporary trefoil treatment in England, and he did not know whether he was wrong in suggesting that the capitals were probably carved by English artists. There was a very distinct English feeling about certainly the north-east capital at the corner. Owing to the unfortunate hangings one was not altogether in a position to judge of those on the other side ; but he certainly felt that the carving of the capitals was probably done by English workmen. He should like Professor Lethaby to suggest one day by a sketch what that shrine was like in its glory. Chevalier Formilli was only dealing with its basement ; over that was a sarcophagus, upon that was the effigy, and above that, he imagined, some canopy or superstructure. When it was remembered that the reredos was a later addition, and that the tomb of the Confessor stood in the apse surrounded by other artistic objects, the choir of the Abbey in its original glory must have been a very extraordinary sight. Few tombs in England remained in their original position, and one of the wonders of Westminster was how much remained that was original. Chevalier Formilli had mentioned the Cosmati pavement at Canterbury. This surrounded the shrine of the most popular English saint, Saint Thomas, towards which pilgrims were incessantly wending, and which had disappeared. Another English monument of the thirteenth century was that of St. Hugh at Lincoln, in its Angel choir, which had also gone. He was interested by Professor Lethaby's suggestion that at Viterbo there was discovered the Cosmati name, Petrus Odericus, because Henry III.'s nephew, Henry the son of Edward, was slain at Viterbo, and Edward, on his way back from the Crusades after his father's death, it is indicated to us, brought back marbles for the decoration of his father's tomb, so that his journey back from the East to Viterbo provides a link between the Cosmati name there and at Westminster. He did not know whether there was any clue to what the superstructure of the shrine of St. Edward was like, but if the baldacchino at St. Paul's-without-the-Walls was the Cosmati work it would afford one. He must confess to a sneaking liking for the later Italian ideal, after the tomb had been taken down by Henry VIII. and re-erected by Mary. Abbot Feckenham, he believed, with limited means created that interesting Renaissance superstructure. He thought one might plead for a little mercy for it—a most interesting historical link with the fact of restoring the ancient ritual and worship under Mary, but with no intention of restoring the ancient architectural ideal. Feckenham's work was just as modern and as up-to-date as it could well be ; but it was entirely new Renaissance design. The Institute was under a very great debt of gratitude to Chevalier Formilli for his interesting Paper, and for giving them the opportunity of seeing these models. He thought, too, they were under some debt of gratitude to the Italian Government for permitting the Institute to have them on the present occasion. He should like to second the resolution of thanks to Chevalier Formilli for his Paper.

Mr. H. HEATHCOTE STATHAM [*F.*] said he should like to raise a question as to whether the actual family of the Cosmati were connected with this work. It did not appear that the name of Cosmati had been found ; we only find these two names, of which one suggestion was that Petrus and Odericus were the Christian name and surname. It was rather a question whether it was correct to speak of the Cosmati as a school. It seemed to him that the Cosmati were a family who made mosaics for several generations, just as the Amati were a family who made violins for several generations. All he had been able to find of the names of the Cosmati had been beginning with Lorenzo Cosmati, who had been mentioned ; then he had a son Giacomo, and Giacomo had a son Cosmatus Cosmati, who seemed to have been one of the most important of them. Then

Cosmatus had four sons, named Luca, Giacomo, Deodatus, and Giovanni, of whom Giovanni seemed to have been the most important. Were the people who executed the work in Westminster Abbey, who were no doubt Italians, really connected with the Cosmati family? The point was of some interest in the history of the matter. There was, he believed, no actual documentary evidence as to the name; perhaps Chevalier Formilli could give them a little information on that point.

Chevalier FORMILLI said that, although the names of the artists who did the work were not on the monuments, and there was no historical proof that it had been done by one or other of the Cosmati family, the way of dealing with the marble carving and of putting the tesseræ into the lime, which was an absolutely special art of the Roman mosaic work of that period, admitted of no doubt that it had been done by the Cosmati family or some of their pupils.

Mr. STATHAM: My point was whether the Cosmati were a school or a family.

Chevalier FORMILLI: The Cosmati were a family and then a school, which continued for a great many years. Every work that was done in that style at the time was called the Cosmati school. It could not be said for certain that the Cosmata Petrus was the son of Paulos, but from the work itself it may certainly be said that the work of Petrus was the work of a pupil of Paulos.

Mr. BECKWITH A. SPENCER said there was one point he should like to refer to, namely, the connection between the mosaics of Westminster and the ancient Roman Empire. It was rather a long way from one to the other in point of time, but when one thought perhaps how those marbles were obtained, at a time when Rome was merely looked upon as a quarry for materials—when one thought perhaps that in those marbles we had all that remained of columns that the Cæsars looked upon, and in the cement all that remained perhaps of some statue by Praxiteles or Phidias—it opened up a very remarkable and romantic vista linking us with the past. Considering, too, the difficulty of transporting material in those days, and the dangers they underwent to procure such work as this, it all seemed to show that in comparison our efforts were very small indeed. He should like to add his thanks to Chevalier Formilli for his interesting Paper.

The PRESIDENT, in putting the vote of thanks, invited the meeting to adjourn to the adjoining gallery to view the beautiful collection of casts and paintings, the work of Chevalier Formilli, which many of them hoped to see in the great exhibition to be held next year in Rome. The International Congress of Architects was to take place next year in Rome, and there would doubtless be a strong muster of British architects present on the occasion. Professor Pite had recalled to their recollection that it was through the courtesy of the Italian Government that the Institute had been able to hold this exhibition of Professor Formilli's work, and he therefore proposed they should tender their cordial thanks to the Italian Government.

The vote of thanks to Professor Formilli and to the Italian Government was passed by acclamation, and Professor Formilli briefly responded. The meeting then dispersed to view the exhibits.

Writing since the meeting Mr. R. Phenè Spiers, F.S.A. [*F.*], says:—

In the *Dictionary of the Architectural Publication Society* will be found a complete list of the Cosmati family with some of their works. Mr. Gerald S. Davies, however, points out, in his book on the Renaissance tombs in Rome, that there were four other families which produced workers in the Cosmatesque style, two of whom, by the way, preceded the Cosmati family. The complete list consisted of the families of Magister Paulus (1110–1130), Ranuccius (*c.* 1135–1209), Vassallettus (1220–1276), to whom Mr. Davies ascribes the cloisters of St. John Lateran and of St. Paul-outside-the-Walls, Laurentius (*c.* 1150–1332), whose grandsons the Cosmas gave their name to the style, and Petrus Odericus (*c.* 1240–1290), to whom we owe the tomb of Edward the Confessor at Westminster and Pope Clement IV.'s tomb at Viterbo, as mentioned by Professor Lethaby. Mr. Davies is doubtful as to the identity of Petrus Romanus, but enters Stefano as a son of Odericus. He may possibly have assisted his father in the completion of the tomb at Westminster.

NOTES ON THE ARCHITECTURAL HISTORY OF LINCOLN MINSTER FROM 1192 TO 1255.

By Francis Bond, M.A.Oxon. [*Hon. A.*], and William Watkins [*F.*].

[*Continued from page* 50.]

NOW we turn to the planning of the choir transepts. Following Professor Willis, all the authorities have held that three chapels are of the time of Bishop William of Blois, and not of St. Hugh, for they have a single arcade on their walls, and not St. Hugh's double arcade; and they have the marble abaci of the shafts of the arcading continued to form a string, a feature said not to appear in St. Hugh's work. With this we are inclined to disagree. It is hardly likely that St. Hugh completed his choir and choir transepts, but left the chapels of his choir transepts to be built by his successors. And, as is pointed out later, a bit of the walling of a small south-western chapel of his apse actually survives, and on that the double arcading is not present; but there is a single-pointed arcade, and its marble abaci are joined together to form a string [fig. 9]. There are, moreover, as we have pointed out, strong reasons for believing that this double arcading of St. Hugh's time is an afterthought, and was not contemplated in the original design. These eastern chapels, therefore, of the choir transept should be attributed to the time of St. Hugh and not of William of Blois.* As for the end-bays, there has been much puzzledom. Sir Gilbert Scott and his colleagues suggested† that the northernmost bay of the north choir transept was the lower part of an intended tower; as to the most southern bay of the south transept, it was held that the ground story was of the time of St. Hugh, but that the upper portions were later. As to the ground story, its southern wall is decorated with St. Hugh's double arcading [fig. 2, p. 37]. This, however, is so distorted that it might well be held that it is not *in situ*. But it is not half such clumsy work as the double arcading in the boys' vestry, where in hardly any two adjacent bays is the arcading of the same height and span. Both the one and the other are no doubt *in situ*. The end-bay of the southern transept is to be attributed to St. Hugh. This bay, however, was not three stories high, as at present, but only one story high; how roofed we know not. It would be separated from the rest of the transept to the north by a transverse arch, similar no doubt to that which still spans the

* It may have been because of its associations hallowed by the memory of St. Hugh, who had worked on the masonry with his own hands, that this design was retained in use long after his death. The single pointed arcade with continuous marble abacus appears also (1) in the central transept; (2) along the whole of the wall of the south aisle of the nave; (3) in Essex's chapel, which we have suggested was the old chapter house; (4) in the present chapter house (1220-1235); (5) in the Consistory Court and Morning Chapel (*a*) on the outside of the screens, (*b*) on the lower half of their western bays, (*c*) on the eastern arcading of the Morning Chapel; (6) on the lower part of the west front. Its chronological range therefore is from 1192 to *c.* 1230, and it is of very little service as an evidence of date.

† *Archæological Journal*, vol. xxxviii. p. 236; so also Mr. Sharpe in *Lincoln Excursion*, p. 22.

northern transept. This arch, just as in the northern transept, would carry the high end-wall of the church; viz. triforium arcade, clerestory, and gable. That all the upper part of the end-wall of the southern choir transept was really one bay further to the north than at present is certain. In the first place, the vice or spiral staircase does not occur in the corner of the ground story—its normal position—but one bay further northward; similarly in the northern choir transept [fig. 1]. Secondly, if one mounts to the top of the high vault of the southern choir transept there are plainly visible the marks where a very massive end-wall has been torn away from the eastern and western walls; these marks are one bay north of the present end-wall. Thirdly, if we descend and pass to the boys' vestry, it will be seen that its southern doorway is of exceptional thickness.* This is because the wall in which it is pierced is the original end-wall of the transept. This, then, was the appearance from the high road of St. Hugh's southern choir transept as completed by him; first, a building of one bay some 37 feet high *plus* a roof, and of only one story; and towering up at its back above it, the main end-wall of the transept, which would be of the same height as at present. We may surmise also that it was not only of the same height, but of the same design as at present; for we may be sure that when the high end-wall was later on set one bay further back to the south, all the old material would be re-used; in other words, the composition of lancets and arcading which now fills the exquisite façade of this transept is really that of Geoffry de Noiers; only it has been removed from its original position.

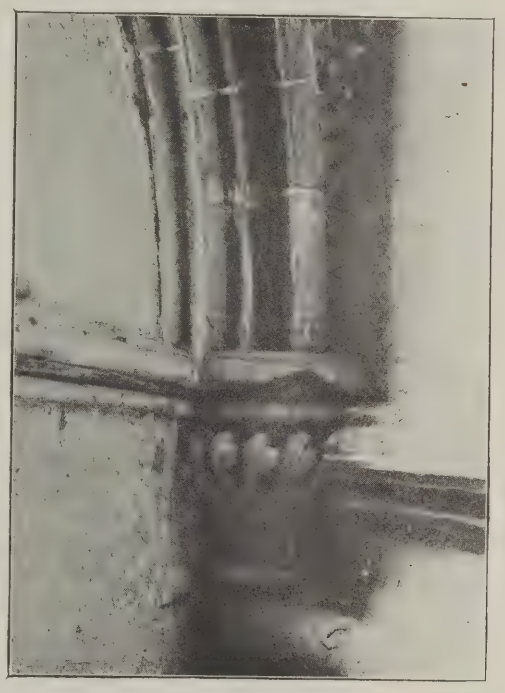


FIG. 9.—FRAGMENT OF APSIDAL CHAPEL.

In the northern choir transept the arrangement was the same as in the southern one, except that the original end-wall has not been removed. Here also the vice is one bay away from its normal position. The transverse arch which spans the transept still carries a triforium and clerestory; the former must have been remodelled at the same time as that of the choir and the rest of the choir transept. As for the tower hypothesis of Sir Gilbert Scott and Mr. Sharpe, it is only necessary to ascend the staircase of the north choir transept to see its improbability. For from above it is clear that the clerestory windows are rebated on their south side to hold glass. Now, if there were a tower, when these windows were glazed they would have looked into the interior of the tower, which is absurd. Plainly they looked out into the open air. Therefore, here, as in the southern transept, the end-bay can have been but one story high [fig. 10].

To the east of this end-bay is now a chapel, the apsidal part of which was built by James Essex in 1772. But outside, in the turf, the foundations of an oblong building have been laid open; this carries on the lines of the western part of Essex's chapel for two more bays eastward. This oblong building is of early date, and was standing when the Angel choir was begun in 1255; for on the north side of the Angel choir the tracery of all the aisle windows to the east is richly moulded and the buttresses highly decorated, whereas in the bay opposite

* This doorway did not exist in St. Hugh's time, and so is not shown in fig. 1.

to the oblong building the window tracery is unmoulded and the buttress and corbel table are absolutely plain. Evidently, when the Angel choir was built, the oblong building was standing, and it was not expected that it would be removed. And, judging by the height of the windows and buttresses of the Angel choir, it must have been quite a lofty building to hide

FIG. 10.—END-BAY OF NORTH CHOIR TRANSEPT.

them from view. The oblong building is shown in Browne Willis's plan of 1729; and two external views of it by Hollar appear in Dugdale's *Monasticon*; the latter show that it was a building sufficiently lofty to hide from the north the adjacent aisle of the Angel choir, and that it had an eastern façade lighted by lancet windows surmounted by an arcade of trefoiled arches. It seems to have been held by almost everybody that this building superseded an early apsidal

chapel similar to the adjoining chapel of St. Hugh, but the only authority for this which we have been able to discover is a statement of Charles Wild in 1819 that the original chapel may be "*presumed* to have been apsidal." No such presumption is needed. As originally built, it was probably oblong. If so, what was done by Essex in 1772 was, instead of repairing it, to shorten it and give it an apsidal termination to match that of the adjoining chapel of St. Hugh. As far as possible, he used up the material of the destroyed bays; the rib-moulds of the vaults are precisely the same as those of the other chapels of the choir transepts. On the south side is a panel of fine arcading; this is *in situ*, and is of the time of Geoffry de Noiers. Opposite is a remarkably fine doorway, which is not *in situ*, but is part of the early work: the wall seems to have been thickened to make room for it. It is possible that the oblong building, three bays long, was separated off from the transept by a low stone parclose screen similar to those which separate the Morning Chapel* and the Consistory Court from the nave,† and that Grostête took down the screen and removed its central doorway to its present position. Fine as this doorway is, the plain member of its inner order shows that, as in the doorway of the vestibule to the present chapter house, it is only the back of the original doorway; if it had been the front, this plain member would have been moulded. The height, length, and fine detail of the oblong building all point to the conclusion that the building to which they belonged was of exceptional importance. What was its purpose? James Essex imagined it to be a Lady Chapel, from the similarity of its position to that of the Lady Chapel of Ely. Others have styled it the chapel of St. John Baptist, the patron saint of St. Hugh; and have invented a pretty story that St. Hugh was buried in the supposititious apsidal chapel here; and that owing to the crowd of pilgrims to his tomb this apsidal chapel became too small, and was consequently lengthened into the oblong building described above, and that here St. Hugh's shrine remained till it was removed in 1280 to the Angel choir. But all this is mere guesswork. The altar under the great east window in the present Angel choir is known to have been dedicated to St. John Baptist. Gough, in *Sepulchral Monuments*, i. 65, quotes a chantry deed which speaks of the altar of St. John where the flesh of the body of Queen Eleanor lies buried.‡ Since then the easternmost altar in the Angel choir was dedicated to St. John Baptist, the presumption is that the altar in the easternmost chapel of St. Hugh's work also had this dedication. St. Hugh had expressed a wish to be buried, not where his tomb would be in the way (*i.e.* in front of the high altar), but near the altar of his patron, St. John Baptist. Now just beneath the marble slab put up by Bishop Fuller in the Angel choir to commemorate St. Hugh is the north-eastern wall of the easternmost chapel of St. Hugh's apse [fig. 1, K]; and in this wall some years ago was found embedded a stone coffin with remains of vestments. Precentor Venables argues with considerable probability that this was the actual burial place of St. Hugh till his remains were taken up and deposited in a shrine. If so, St. Hugh's grave would occupy the place of honour—*i.e.* the north side of the altar of his patron, St. John Baptist. It might be suggested that the oblong building was a sacristy; but there is no documentary evidence to that effect; and if it had been a sacristy, it is not likely that the so-called Dean's chapel would have been converted into a sacristy soon after; what is now the boys' vestry was certainly a sacristy in the fourteenth century, and may have been used for that purpose from the first. Nor is it likely to have been built as a chapel. Why should it be oblong while the three other eastern chapels of the choir transepts are apsidal? We suggest that originally it was the chapter house; this would account at once for its considerable dimensions and the great care spent on its mouldings and sculpture.

* Browne Willis calls this the Morning Prayer Chapel.

† It is not impossible that these screens are in part those which originally separated the end-bays from the rest of the two choir transepts. They certainly do not fit where they are now.

‡ "Altare Sancti Johannis ubi viscera praefatae reginae (Alianorae) jacent humata."

If so, what is now the end-bay of the north choir transept might be the vestibule of the original chapter house. And the large doorway which now is inserted in the north wall of Essex's chapel would be in the centre of a stone parclose screen built, as suggested above, across the entrance to the old chapter house; or, as may perhaps be suggested with more probability, under the arch which spans the northern choir transept, screening off the vestibule from the transept.

Now turn to the western side of the choir transepts [fig. 1]. In each of these is a square chapel of a single bay. That in the southern transept at H—now the boys' vestry—contains a stone trough, and was evidently screened off and employed as a sacristy in the first half of the fourteenth century. The corresponding square chapel in the north transept at D, now called the Dean's chapel, was also originally open to the transept. The Dean's chapel, when walled off, was divided into three chambers by two floors. The lowest chamber, therefore, was rendered pitch-dark, and it became necessary to pierce the wall with small windows; the ironwork of the shutters of these windows and of the doorways is original, as also that of the door leading into the cloister. The second story has been absurdly styled the "Apothecary's Dispensary"; it was more likely a treasury, and the niches in the walls, like those in Henry the Fifth's chantry chapel in Westminster Abbey, contained cupboards for minor relics. The third story may have been a watching chamber. The ground story seems to have been kept locked till recently, and here may be seen, in excellent preservation, mouldings, foliated capitals, and remarkable figure-sculpture of St. Hugh's time.*

A more difficult task is to recover the ground plan of St. Hugh's apse, with its encircling ambulatory and outer ring of seven chapels. Excavations have been made at various times, and the lines of St. Hugh's foundations have been inscribed on the pavement, under the direction of the late Precentor Venables; the foundations of the north-western semicircular chapel have been uncovered this summer. A plan of the apse and its surroundings was drawn up a few years back by Mr. J. L. Pearson, at that time Consulting Architect of the Minster, and will be found in the *Archæological Journal*, vol. xliv. p. 194. On this some remarks may be offered. In the first place, the plan was drawn up under great disadvantages; Mr. Pearson was in delicate health at the time, and was unable to visit Lincoln and see the foundations for himself. Secondly, the plan does not agree with the lines incised on the pavement—*e.g.* the curious triangular spurs between the chapels are omitted. Thirdly, it is *prima facie* unlikely that the voids between the transeptal chapels and the adjacent semicircular chapels of the apse were not utilised. Fourthly, the blocks of masonry between each pair of larger chapels on each side of the apse are disproportionately huge for the work they have to do. Fifthly, the most serious defect in the plan is that it altogether fails to take into account the panel of arcading shown in the plan at z [fig. 1]. The existence of this had been notified in 1857 in Mr. Poole's Paper, and was known to Precentor Venables. Unfortunately he was unwilling to recognise its importance: he declined to accept Mr. Ayliffe Poole's explanation. On the other hand, he offered no explanation of his own—he simply disregarded it,† and no trace of it appears on Mr. Pearson's plan. This bit of arcading is situated in a small recess between Bishop Longland's chantry chapel and St. Paul's chapel. The recess is walled off by a continuation of the chantry chapel wall, and the door in it is kept locked, so that few have seen it or know of its existence. At

* A little way up the adjacent staircase is a small lofty room which has never been used since it was built. Its mouldings and sculpture are as fresh and sharp as when they left the bench. The vault is ribbed, and almost the whole of the centering still remains adherent to the plaster of the rubble with which the cells of the vault are filled in. Other examples may be mentioned, especially in crypts, in which portions of boarding remain attached to the rubble of vaults; but in this example almost the whole of the centering remains intact; means should be taken to ensure its preservation.

† "A projecting fragment of walling starting obliquely in a north-east direction at the junction of the choir transept and the south aisle of the Angel choir, singularly combined with the Early English of St. Hugh's work on one side and with the Early Decorated responds of the later design on the other, has been deemed by Mr. Ayliffe Poole to be a relic of the wall of St. Hugh's apse. This, however, is very problematical."—Precentor Venables in *Archæological Journal*, vol. xl. p. 185.

present the arcading forms the lower part of the *external* north-east wall of St. Paul's chapel; but originally it would be on the *internal* south-west wall of a small chapel, the most western on the south side of St. Hugh's apse. Only one bay of this arcading is left; but it is in good preservation [fig. 9]. It consists of a pointed arch supported by shafts; the marble abacus is continued so as to form a string; the two capitals are foliated, and the western one is a favourite type in St. Hugh's work; capitals closely similar may be seen in his double arcading in the south aisle of the choir and the south wall of the south choir transept [fig. 2]. The arch mouldings are small, numerous, and deeply undercut. In the upper set of mouldings is small tooth ornament; on the other side of the wall, *i.e.* inside St. Paul's chapel, above the piscina, may be seen mouldings of similar character. This bit of arcaded wall is of great interest and importance; first, because its retention made it necessary to make St. Paul's chapel polygonal externally instead of semicircular, and, secondly, because it shows that the little south-west chapel of St. Hugh's apse ended in a triangular spur.

The measurements of all the eastern part of St. Hugh's work have been taken by Mr. Watkins, and the plans have also been drawn by him. The following account is given in his own words:—"The principle on which the ground plan was arranged by St. Hugh's architect was a geometrical one, as can be proved from the foundations still remaining under the pavement of the Angel choir, and from the forms and positions of the chapels, now marked by incised lines on the pavement, which were placed there by the direction of the late Precentor Venables. By the aid of these lines, and from measurements taken by myself from them, and taking into account the relative width of the eastern transepts to that of the choir, I have been able to develop the whole plan of that part of St. Hugh's church, which extends from the rood tower to the extreme east end of the chevet, embracing seven chapels, exclusive of the north and south chapels at the eastern side of the choir transepts. Every feature of this plan fits, and occupies its relative position, and has a geometrical proportion as part of the whole composition. The following is the method by which the plan in fig. 1 of St. Hugh's choir, transepts and chapels was arrived at. The total width of St. Hugh's cathedral was found to be 86 feet between the centres of the north and south walls of the choir aisles. This line of 86 feet was divided into four equal parts of 21 feet 6 inches each, two being given to the width of the choir, and one each to the north and south aisles respectively, as marked on the diagram by the letters A, B, C, D, E.

"The process of setting out was as follows:—A, B, C, D, E are the points of the four divisions from which were drawn diagonal lines right and left to angles of 45 degrees, the lines extending to the middle of the outer walls of the north and south aisles, and intersecting on the lines of the main piers at *a*, *a*, *a*, &c. Each of these intersections, *a*, *a*, *a*, &c., gave the centres of the piers of the main arcading at the sides of the choir and of the wall-shafting in the outer walls of the aisles. By this simple angular process the central transepts with the rood tower and the ritual choir and choir aisles, together with the chapels connected with them, were laid out as far eastwards as the west side of the eastern transepts, which is marked on the diagram by the letters F, G, H, I, J, K, L, M, N. These letters also mark the centres of the piers and wall-shafts on this line, the distances between them still being 21 feet 6 inches.

"From the points F, G, H, I, J, K, L, M, N another angle was employed, viz. that of $22\frac{1}{2}$ degrees, each line of which takes its rise from the centres of the piers and wall-shafts of the four main divisions, thus connecting the lines of the choir with those of the transepts. The eastern transept measures in actual work 26 feet 6 inches wide from centre to centre of the piers, which width is just equal to three lozenge-shaped squares as shewn on the diagram. Figures 1, 2, 3, 4, 5, 6, 7, 8, 9 indicate the positions of the piers and wall-shafts on the east side of these transepts, the distances between each pair of piers being exactly 21 feet 6 inches as before.

"From the east side of these transepts commences a much more intricate angular process of setting out. From figure 3 a line was drawn at an angle of $22\frac{1}{2}$ degrees, and extended to the right quite through the building and chapel at the south side to the letter *b*. From figure 7 a

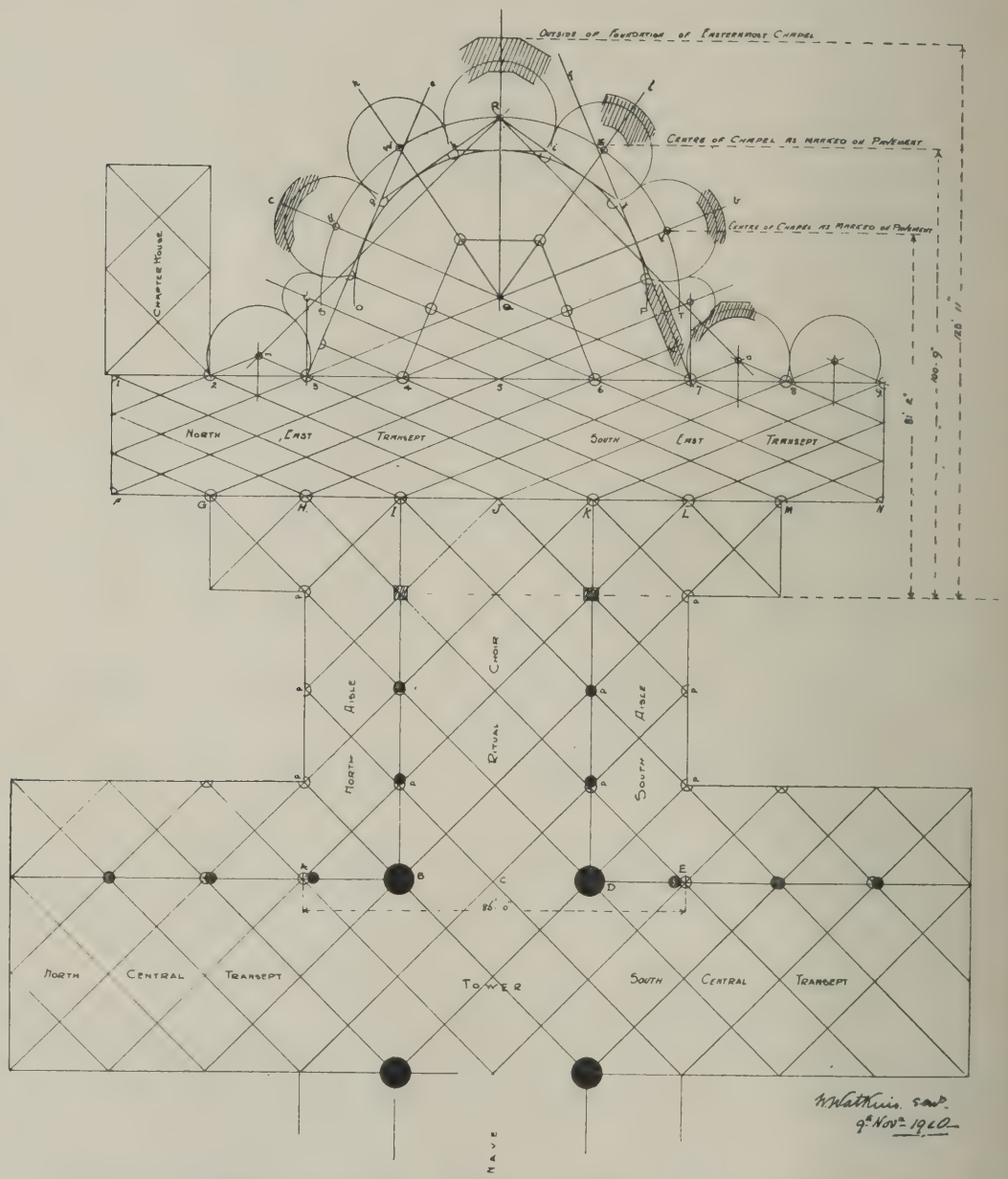


FIG. 11.—LINCOLN CATHEDRAL: DIAGRAMMATICAL PLAN SHOWING THE METHOD OF SETTING OUT ST. HUGH'S EAST END.
The hatchings indicate the existing foundations. The dimensions figured on this diagram indicate the positions of existing foundations of St. Hugh's work.

similar line was drawn at an angle of $22\frac{1}{2}$ degrees also to the left side quite through the building and chapel at the north to the letter *c*; and the point where these two angular lines cross each other in the middle at Q became the centre of St. Hugh's chevet, from which nearly all the chapels radiate.

"The positions of the chapels and their relative proportions were set out as follows: From figure 3 was drawn a line to *e* at the angle of 67½ degrees. From figure 7 was drawn a similar line (but in the opposite direction) to *f* at the same angle, viz. 67½ degrees. These two lines having thus been fixed, a segment of a circle O P was struck from the centre Q, whose radius just touched the two lines 3*e* on the one side and 7*f* on the other. From the centre Q also were drawn two other straight lines, each at the angle of 55 degrees, to *k* on the one hand and *l* on the other. Two further lines were then drawn, viz. *g h* on the one hand and *i j* on the other, at the angle of 35 degrees (*i.e.* the 55 degrees set square reversed), each just touching the segmental line O P, inclining inwards and extending to point R in the eastern chapel, which point became the centre from which this chapel was set out and planned. All the above lines having been thus fixed, another segmental line S T was struck from the centre Q, whose radius was from the centre Q to the centre R. This segmental line was continued right and left through the five most eastern chapels, and the points where it crossed the lines *c q*, *k q*, *l q*, and *b q* became the centres *u*, *w*, *r*, *x*, *v* of these five chapels, all radiating from and equidistant from the main centre *q*. The respective centres from which the three chapels at the east side of the eastern transepts were set out and planned were obtained by the intersection of diagonal lines, and confirmed in these positions by vertical lines, which are indicated on the diagram and need no further explanation.

"The whole of this diagram has been made from the single dimension of 86 feet, which is the width of the church; nor was any scale of measurement of any kind used in its development. But, after it was made, its accuracy was tested by measuring the sizes and positions of the very few remains of St. Hugh's chevet, which are marked by leaded lines incised in the pavement of the Angel choir, indicating foundations which were discovered a few years ago. These foundations are shown in their respective positions by the hatchings on this diagram; the measurements figured on the right-hand side of the diagram are taken from the centres of the only piers of St. Hugh's time now remaining unaltered, and hatched in on the diagram; the northern of these two piers is marked by the letter C in figure 1."

This is as far as it has been found possible to carry the analysis of St. Hugh's work at present. It now remains to attempt from the conclusions formulated above to give a consecutive account of the building operations in Lincoln Minster from 1192, when they began, up to 1255 or thereabouts, when, we may presume, they were completed, or nearly so, since otherwise so great a work as the building of the Angel choir would hardly have been undertaken. For the latter half of this period the documentary evidence is of the scantiest. From a Latin metrical *Life of St. Hugh* it is inferred that the present chapter house was completed in the latter part of the episcopate of Bishop Hugh of Wells; for it alludes to the canonisation of St. Hugh of Avalon, which took place in 1220, and to Hugh of Wells as still alive; he did not die till 1235. To this period, 1220-1235, belong also the lower parts of the thirteenth-century work in the west front; for, says Mr. Sharpe,* "The profiles of the moulded work of the west front and the Chapter House leave no doubt that they were designed by the same hand." The great circular windows at the end of the central transepts are also mentioned in the Latin *Life*. It may be taken, therefore, that the central transept was finished between 1220 and 1235; probably earlier still. The next document is the will of Bishop Hugh of Wells, who died in 1235, and left "one hundred marks and all the felled timber which I may die possessed of throughout my diocese on condition that my successor may redeem it for fifty marks." What was the destination of all this timber? It can hardly have been for scaffolding and centering to be used in building the nave, for the scaffolding and centering

* *Lincoln Excursion*, p. 25.

employed in building the central transepts would be available for that purpose. It remains that it was to be used in roofing the nave; probably in completing the roof of the nave, for a good deal of it may have been roofed before 1235. Then comes a very important occurrence—viz. the fall of the central tower. Different accounts of it are given by the chroniclers. The annalist of Dunstable says: In 1237, "Facta est ruina *muri* Lincolniensis ecclesiæ secus ('along') chorum post sedem Decani." The chronicle of John of Peterborough writes: "Ruina *ecclesiæ* Lincolniensis propter artificii insolentiam";* while Matthew Paris gives a long and detailed account,† of which the most important part is: "Corruit opus lapideum *novæ* turris ecclesiæ Lincolniensis"—*i.e.* one chronicler states that the church collapsed; another that the south-west corner of the choir ("behind the Dean's stall") collapsed. Matthew Paris (i. 164 and 253) tells the well-known story how when a canon was preaching against the tyrannical ways of Bishop Grostête, as he reached the words in his sermon, "Even

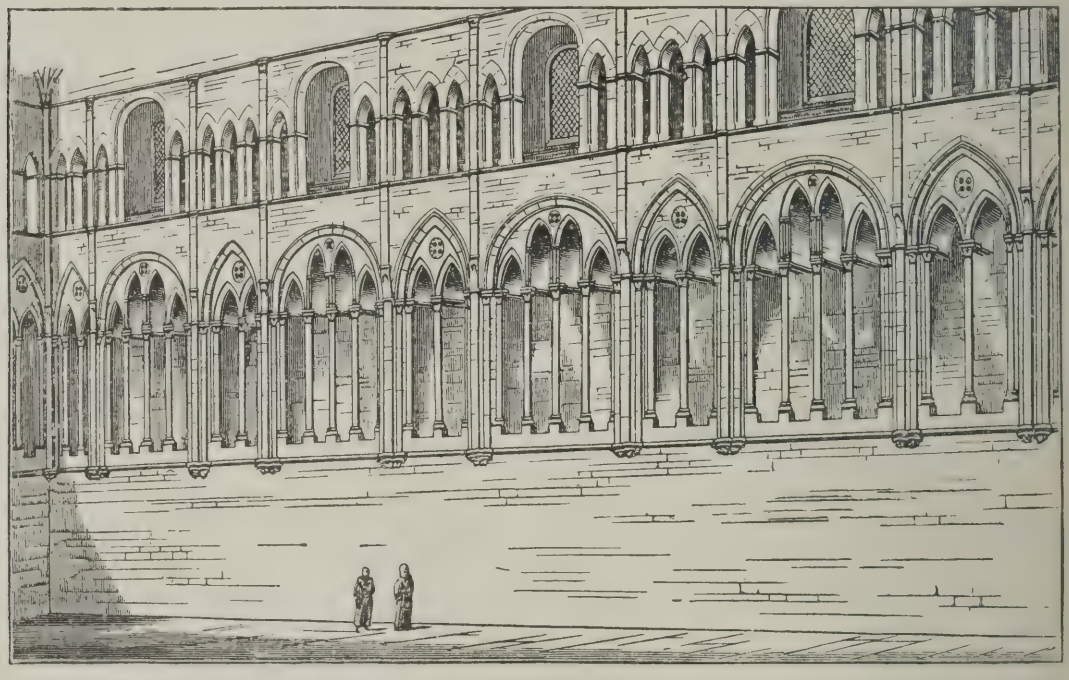


FIG. 12.—RIPON NAVE.

if we be silent, the stones will cry out," the stonework of the new tower of the church of Lincoln collapsed; and by its fall three men were killed and the whole church was shaken and damaged; but the bishop set to work to rebuild it effectually. Matthew Paris's account is apparently the correct one; for it is clear from the masonry that an earlier tower than the present central one has existed and has collapsed. It may be, as the Dunstable chronicler asserts, that the south side of the choir was more shaken than the north; but both sides of the choir must have suffered, for the piers of the northern ground-story of the choir have been cased and strengthened quite as much as those of the southern side.

As the documentary evidence gives us so little help, we must appeal in the main to the evidence of stones and mortar. From this we conclude that St. Hugh built an irregular semi-hexagonal presbytery; round it went a procession path, and out of it opened seven

* The term *insolentiam* has been variously translated; we take it to mean "*quod Geoffry de Noiers non solitus est aedificare.*"

† Quoted in full in *Archæological Journal*, xl. p. 383.

chapels. This plan is not based on anything known to exist in England, nor was it in after days copied or developed anywhere in England; it is thoroughly continental, and was probably due to the influence of St. Hugh of Avalon himself [fig. 1]. The choir transepts were of the same length as at present, but the end-bay of each was only one story high. St. Hugh built the chapels of St. Peter, St. Paul, and that which was subsequently dedicated to himself. Each transept had a western aisle of a single bay; these bays are now the boys' vestry and the Dean's chapel respectively. St. Hugh probably built an oblong chapter house at the end of his northern choir transept. He also built the choir and its aisles, the eastern piers of the crossing, and one bay of each aisle of the central transepts. His choir and choir transepts were roofed in wood and were not vaulted. The design of them was as thoroughly English as the plan of the apse and its chapels was continental. The particular church which was followed in the design of the choir and its transepts seems to have been the nave of Ripon, as built by Archbishop Roger between 1154 and 1181* [fig. 12]. The author of the design of the Lincoln choir and transepts, Geoffry de Noiers, seems to have been an Englishman, a practising architect in the North of England.

The same architect who designed the choir designed the whole of the central transepts, for the ground course of the choir runs round the central transepts up to their junction with the nave. The central transepts abound with evidence that no high vault was intended, *e.g.* when the present vault was designed, it could not be built without masking to a considerable extent the great circular north window.† The work included the erection of a central tower and abutment to its western piers. This work may be assigned to the time of Bishop William of Blois, or thereabouts.

Then comes a change of architect, and the nave is commenced. Its fine ground course is continued round the western chapels right up to the west front. It has been pointed out that the nave roof was probably incomplete in 1235; it may be surmised that this was the case also with some of the upper work of the western chapels; the rich eastern gable of the Consistory Court, at any rate, is likely to be the work of a later period. In this period also may be placed the lower part of the thirteenth-century work in the west front, and also the present chapter house. All this was done mainly in the time of Bishop Hugh of Wells.‡

In 1235 Bishop Grostête was appointed; he lived till 1253—*i.e.* for eighteen years. The Angel choir was not commenced till *c.* 1255; this gives a total of twenty years for the work of this period. A vast amount of work is to be ascribed to these twenty years. But it should be borne in mind that Lincoln was better off for building than almost any other cathedral. In mediæval days labour was cheap, but owing to the excessive cost of transport stone was usually very dear. At Lincoln the last item was almost negligible; the stone—the yellow Lincoln oolite—was got on the spot; the ground to the north of the cathedral has been turned up in all directions to quarry the freestone. With the cost of quarrying and the cost of transport so small the architect at Lincoln got far more value for his money than elsewhere. Secondly, the See was by far the largest in England, and very wealthy. In the thirteenth century it extended south to the Thames at Dorchester; it originally included the ten counties of Lincoln, Rutland, Northampton, Cambridge, Hertford, Huntingdon, Bedford, Buckingham, Oxford, and Leicester. Bishop Longland, in the time of Henry VIII., had an income equivalent to £23,554 of our money.§ At the same period the Dean, Precentor, Chancellor, Treasurer, and Subdean had an aggregate income equivalent to £18,276 of our money, while the income of the eight Archdeacons in the same way aggregated £12,216; to these are to be added the incomes of the other Canons, the Vicars, and the rest; all were celibates, and the chief outlet

* It may have been the great choir of York Minster, which was also building at this time.

† For the bungling design of the central transepts see *Archæological Journal*, vol. xl. p. 37.

‡ In estimating the amount of work done in this period it must be remembered that during the Interdict the temporalities of the diocese were seized by King John and not restored till 1213.

§ Benson, *The Cathedral*, p. 27.

for their expenditure was church-building. Some cathedrals, moreover, had a fabric fund. Authorised collectors with "briefs" would also be sent out all over the vast diocese; perhaps even authorised pedlars. In twenty-nine years a monk of Ely collected the money for the great Lady Chapel there, partly by preaching, partly by the sale of wares he carried on his back. In 1270 the Bishop of Lichfield promised his indulgence to all who would visit the cathedral of Lichfield and contribute to the building of its spires.* Death-bed gifts would swell the total, also the contributions of guilds. But the most valuable source no doubt would be the offerings at the shrine of St. Hugh, both before and after his canonisation. At Canterbury, so late as *c.* 1530, the offerings at the shrine of St. Thomas still brought in some £4,800 per annum of our money. At Gloucester the cost of the high vault of the eastern limb and crossing as well as of the stalls was defrayed out of the offerings at the tomb of Edward II. At Rochester offerings at the tomb of St. William of Perth enabled the monks to rebuild the presbytery, choir, and choir transepts between 1214 and 1237. At Lincoln also the offerings at St. Hugh's shrine doubtless yielded a large revenue in the twenty years in question. If we add big contributions from the Bishop—and it was the custom with thirteenth-century bishops to spend vast sums on church-building out of their private purse—and an income tax of some ten per cent.—such as was levied on themselves elsewhere for similar objects by Deans and Chapters, there would be money enough, and more than enough, to do all the work in the period of Bishop Grostête's episcopate. Ely Presbytery, which also was being built *c.* 1240, cost about £5,724 of our money annually; York, in 1370, spent £9,405. In both these cathedrals, however, new work was being done; at Lincoln Grostête's work consisted chiefly of repairs, extensions, and vaulting. It should not have been difficult to provide annually £5,000 or more for the work for twenty years. Nor would there be any difficulty if the funds only came in intermittently; there were plenty of Jews at Lincoln who could oblige with loans. In the thirteenth century Bishop Grostête was the greatest Churchman of the time and one of the most energetic prelates of the Middle Ages; we may be sure that he would not allow the works to be stopped for want of funds.

It may be asked, what reason have we, documentary evidence being so weak, for connecting Bishop Grostête's name with great building operations at Lincoln. One or two bits of architectural evidence may be mentioned. He certainly rebuilt the central tower. Now both in the upper part of its interior and in the piers which support it there are certain features which, whenever they occur, raise a presumption that the work is of his time. They consist of (1) stone trellis ornament, (2) hoodmould stops in the form of whorls, (3) massive columns of yellow Lincoln oolite with very broad fillets, (4) few and large bowtells with large fillets in the arch moulds. The trellis work is seen on the interior of the central tower, in the upper part of the west front, the completion of which may therefore be ascribed to him, and in the masonry which blocks up the doorway on the north side of Essex's chapel. The whorl occurs on the interior of the central tower, and as a termination of the string above his trellis work in the blocked doorway in Essex's chapel; it is also seen in the parclose screens which have been inserted in the choir to stiffen the piers. Whorls also occur as stops of dripstones in the Morning Chapel and Consistory Court; and, again, with the same function, on the aisles of the nave; if we may trust them as evidence, it may be that some of the upper portions of the nave and its western chapels were not finished when Grostête became Bishop in 1235. As for the broad-filleted freestone columns, they first occur about half-way down the nave on the north side; here they are probably of the time of Hugh of Wells; but they occur so frequently in Grostête's work as to be characteristic. They are present in the piers which support his central tower; they are added to piers in the choir to strengthen them, and all the piers in

* Gasquet's *Parish Life in Mediæval England*, p. 226.

the central transepts contain them. It would seem that in the choir Bishop Grostête, being in a hurry to get it ready for service again as soon as possible, merely added additional columns to the piers; but in the central transepts, about which there was no hurry, he entirely rebuilt the light piers of Geoffry de Noiers, re-using, however, as many of the marble shafts as possible.

As regards the mouldings, the Golden Age at Lincoln was that of 1220 to 1235. To this period belongs the doorway of the chapter house, and consequently those of the south central transept and the two small porches in the west front. No suites of mouldings more delicate and exquisite were ever wrought. In comparison with these the mouldings of the time of St. Hugh and his successor, interesting as they are, appear a little archaic, especially as they are usually worked on the wall plane and soffit plane and not on the chamfer plane. In comparison with the mouldings of 1192-1235 those of Grostête's time look extremely coarse. Nowhere can the difference be better seen than in the Galilee, where the exquisite doorway into the church puts to shame the work in the porch, helped out though it be by 5,355 specimens of big tooth ornament.

For convenience the work ascribed to Bishop Grostête may be divided into six sections. (1) This includes the completion of the nave and its western chapels and of the west front. It may be that Grostête was already engaged on this work when the central tower fell in 1237. (2) When it did fall, other work would have to be put aside in order to erect a new central tower and repair damages. Fortunately the tower had fallen almost vertically, as did the steeple of Chichester Cathedral in 1861, and only a single adjacent bay had to be rebuilt in part on each side; also the choir piers were strengthened by additional columns of freestone. As for the tower, its piers would have in part to be taken down, but no doubt much of the core of the old piers remains. In rebuilding, the piers were made much more massive. The freestone columns of its piers are probably Grostête's work, and the marble shafts those of the old tower piers re-used. The arches carrying the old tower must have been seriously damaged, and would probably have to be entirely rebuilt; and owing to the greater thickness of the new piers they would have to be broader than before.

Grostête seems then to have made up his mind to undertake a far vaster task—viz. to insert high vaults all over the cathedral. He must have decided on this in 1237, or very little later; for in repairing the broken bays of the triforium of the choir and central transept he did not preserve the original design, but adopted a design which would enable high vaults to be put up there. As Geoffry de Noiers had designed the triforium and clerestory of the choir transepts, choir, and central transepts, no high vaults were possible. Both triforium and clerestory had to be entirely remodelled before high vaults could be undertaken. How this was done has been explained above and need not be repeated here. When every fourth window of St. Hugh's clerestory had been blocked to receive a clerestory buttress and fliers, and when St. Hugh's triforium had been taken out and the present one put in its place with stiffening arches in the chamber behind it, then at length it would be possible to commence the vaulting.

The precise order in which the vaults were successively put up must be left for future consideration. But a few remarks may be offered, based on an analysis of the rib-moulds and the articulation of the vaults. The vaults of Lincoln Minster fall into two entirely different groups, executed at widely different times. The first group comprises low vaults only—viz. those of the choir aisles, the chapels of St. James and St. Edward the Martyr, the end-bay of the north choir transept, the Dean's chapel, the boys' vestry, the chapels of St. Peter, St. Paul, and St. Hugh, and Essex's chapel. These have an earlier type of rib-mould than any other in the Minster, having all their ribs moulded on the wall plane and the soffit plane, *never on the chamfer plane*. As regards articulation, they are all sexpartite vaults or variants thereof. If one rib has to be omitted, they become quinquepartite; if two ribs, quadripartite —

a fact which widely separates them from such vaults as those of the choir, the chapter house, the nave, and its western chapels.

The vault of the boys' vestry is completely different from the rest of the vaults in this group. At first sight it looks early; for it contains the billet ornament which is used so profusely in St. Hugh's parapet; but so does the vault in the adjoining bay of the choir aisle. On the other hand, it has ribs which look as if moulded on the chamfer plane. As a matter of fact, they are not. A square block has been cut into two triangles, and each triangular block has been moulded on the sides. This vault belongs therefore to the early group. All the above vaults may be assigned to the time of St. Hugh and his successor.

Turning to the high vaults, they may be divided into three groups. One group contains the high vaults of the choir transepts, those of the choir and those of the nave. These may have been built in the order given. Of the three, those of the choir transepts, with their diminutive tooth ornament, most resemble the vaults of the aisles and chapels, and therefore may be assumed to be the earliest; Sir Gilbert Scott and Mr. Pearson, indeed, were of opinion that they were of the time of St. Hugh. In the high vaults of the eastern transept the sexpartite system is adopted, because the windows are arranged in pairs in each bay. The abnormal vault of the choir looks very remote in time from that of the choir transept; but one of its bays, that next the tower, having only two windows, has sexpartite vaulting. All the rest of the bays of the choir, though abnormal in articulation, have the same moulds as this solitary separate bay, and are, therefore, of the same date with it. It has been stated, indeed, that this single bay was damaged by the fall of the tower and then rebuilt; but there is absolutely no break between the vaulting of this bay and that of the bays to the east. All the bays of the high vault of the choir were built together, and none of them till after the fall of the tower in 1237. The vaults of the choir look remarkably unlike those of the choir transepts; nevertheless, they must be nearly contemporary; for the rib-moulds of the diagonals in the choir are identical with those in the choir transepts, except that, in the latter, bands of tooth ornament appear, which are omitted in the former. After the vault of the choir perhaps comes that of the nave. In articulation the two vaults are very dissimilar. It may be, however, that the vault of the nave, which fits into its bays admirably, was already on paper before the fall of the central tower; it would, of course, have to be definitely settled on before a single stone of the nave was built. The probability is that the abnormal choir vault is nothing but the nave vault twisted about to get it into much narrower bays than those for which it was originally intended. In other words, the nave vault was set out before the choir vault, but built after it. In the latter, owing probably to the narrowness of the bays, diagonal ribs were omitted. It was provided with a longitudinal ridge rib, and in each of the eastern and western cells was provided with a pair of tiercerons rising up to the ridge rib. But in the northern and southern cells there was no transverse ridge rib, and, consequently, the tiercerons had to rise up to the longitudinal ridge rib. In the nave, a transverse ridge rib is introduced, up to which the tiercerons rise in the northern and southern cells of each bay: the diagonal ribs are also reinstated. Owing to the great width of the bays of the nave there is room for all these without obstructing the clerestory windows. At the time when it was put up, this nave vault would be the most highly perfected example of vaulting here or abroad. A curious peculiarity is seen in the vaults of the nave and choir alike—viz. the presence of tooth ornament in their longitudinal ridge ribs. Another vault resembling those of the choir and nave in their general avoidance of tooth ornament is that of the chapter house. It is usually assumed to have been built with the chapter house—*i.e.* between 1220 and 1235. But the articulation of this vault is exceedingly complicated, and is very unlikely to have come into existence at so early a date, especially in a cathedral which at that time did not possess a single high vault in any part of it. Moreover, the buttresses of the chapter house are built too slight for a vault, and, indeed, had to be

supplemented by fliers in the first half of the fourteenth century. It can hardly be doubted that the chapter house was originally roofed only in wood, and did not receive a vault till a considerably later period. The lovely corbels also from which the ribs of the vault spring have a decidedly intrusive look, and are by no means unlike the fine foliated corbels put up in the Angel choir for a similar purpose between 1255 and 1280.

The vaults of the Morning Chapel and Consistory Court resemble that of the chapter house in their complex articulation; they differ from it in that several of their ribs are chamfered, not moulded. It is possible, however, that it was intended to mould them afterwards *in situ*, as is the practice of French masons at this day; if so, they may be regarded as more or less contemporary with the vault of the chapter house.

The third group contains vaults which have a profusion of large tooth ornament, the most important being those of the central transepts, the Galilee porch, and the southernmost bay of the south choir transept. Now the character of the work in the Galilee porch shows that it is later both than the central transept and the nave; while it has been shown that the upper stories of the above bay of the choir transept, and consequently its vault, are late additions. It is suggested, therefore, that all these vaults belong to Grostête's time. A curious peculiarity unites the vaults of the choir, the central transept and the above bay of the choir transept —viz. that they have longitudinal ridge ribs which are not horizontal, but arched. In their mouldings the vaults of the choir and the central transepts have many points in common—in fact, the whole of the high vaults are interlocked by similarities of design. This is in accordance with our conclusion, that dissimilar as they are in appearance, all of them were executed in a comparatively short period—viz. between the fall of the central tower in 1237 and the commencement of the Angel choir *c.* 1255.*

In addition to all this vaulting we may credit Bishop Grostête with the two upper stories of the end-bays of the two choir transepts. In the northern choir transept what apparently had been the vestibule to the old chapter house was thrown into the transept; and it is possible that at this time the old chapter house was converted into a chapel of St. Mary Magdalene.† In the north choir transept the original end-wall was allowed to remain; in the south choir transept the original end-wall was pulled down, and the whole bay from top to bottom was thrown open to the transept. In the former no high vault was ever put up in the end-bay; in the latter the end-bay received a high vault, and below its central boss the great Bishop was buried "under a raised monument that had his effigies in brass upon it," looking up at what may have been the last of his great works.

Such, then, as far as we have been able to make it out, is the surprising history of the choir and choir transepts of Lincoln Minster. The account given of it makes no pretence to be complete or authoritative or final; many of the facts and more of the deductions may be questioned. The details of the fabric need to be studied by other eyes, and the analysis given here to be weighed by other judgments, before this account can make a claim to a full acceptance; it is a tentative hypothesis, not a demonstrated theory; a plea for the reconsideration rather than the rejection of the accepted account of the building operations which went on in Lincoln Minster from 1192 to 1255.

We are indebted to Mr. Batsford for permission to reproduce figs. 4 and 6, and to the Royal Archæological Institute for fig. 12; we have also to express our acknowledgments to the authorities of the Minster for the facilities given to us at the wish of the late Dean for a thorough examination of the fabric.

* For illustrations of the Lincoln vaults see *Gothic Architecture in England*, pp. 324 (2 and 4), 325 (1), 327 (1 and 2), 328, 340.

† James Essex in his Reports speaks of the oblong building as the chapel of St. Mary Magdalene.

REVIEWS.

BUILDING CONSTRUCTION.

The Construction of a House: being the Study of Building Construction presented by means of a set of forty plates containing Plans and Detail Drawings, with Letterpress, of a Design for a Country House, including Motor House and Chauffeur's Lodge. By Professor Charles Gourlay, B.Sc. (Glasgow University), A.R.I.B.A. 4to. Lond. 1910. *Price* 6*s. net.* [*B. T. Batsford*, 94, *High Holborn, W.C.*]

It is a necessity in the present-day conditions of architectural training and practice that books should form a resource indispensable to the student, even in subjects that might be more thoroughly studied in other ways if time and other circumstances would allow. For this reason Professor Gourlay's book may be welcomed as presenting in a clear and thorough manner the methods of constructing the features more usually met with in buildings of any kind; and also as showing how these matters should be expressed in working drawings. The scheme of the book is to deal with a country house and fully illustrate all its parts, from the top of its turret to the septic tank, by means of very complete drawings, including block plan, the usual $\frac{1}{8}$-inch scale drawings, and details of masonry, carpentry and joinery, plaster and metal-work, and sanitary arrangements. The author is to be congratulated upon having contrived to introduce such a diversity of features and methods of construction, and withal to preserve to the house its domestic character and avoid the appearance of a construction museum or building-trades exhibition. The drawings are clear and well executed, and everything has been done to render the book of service to those who by force of circumstances are compelled to teach themselves, though the author recognises that the aid of a teacher is highly desirable; and, of course, every opportunity should be used to acquire an acquaintance with working drawings prepared in architects' offices and with methods followed in actual work. The book shows thoroughly good-class construction; and the expedients adopted where cost has to be reduced without descending to shoddy methods can scarcely be learnt otherwise than in contact with actual work. Scotch names and scantlings of timber to which we are not accustomed appear in places, but the methods of construction are such as are followed pretty much throughout the country. JOHN H. MARKHAM [*A.*].

DINANDERIE.

Dinanderie: A History and Description of Mediæval Art Work in Copper, Brass, and Bronze. By J. Tavenor Perry, Author of "A Chronology of Mediæval and Renaissance Architecture," &c. With 120 *illustrations. Sm.* 4*o. Lond.* 1910. *Price* 21*s. net.* [*George Allen & Sons*, 44–45 *Rathbone Place.*]

There is a quaint flavour about the title of Mr. J. Tavenor Perry's latest work which should appeal to those who cling to the opinion that there is something in a name. Probably the proverbial "man-in-the-street" has never even heard of it, and his lack of information will be shared by many whose experience is considerably wider. Let us say at once that the work before us is as dainty as its title, and never palls upon one from the first page to the last.

We are reminded how certain branches of art work or other industry have usually been associated with certain towns or localities, and have in consequence borne a special designation. Scattered through the length and breadth of Europe to-day are countless specimens of early work in copper, brass, or bronze; many of them designed for purely ecclesiastical use, others of a simply domestic character; but most of them possessing interest, and in some cases rare beauty, though only unconnected references to them are to be found, and these in works devoted mainly to objects of a different character.

From the fact that in the early Middle Ages work of this kind was largely produced at Dinant on the Meuse, owing to favourable local conditions, there has arisen the generic term *Dinanderie*; and its application has been extended, at all events in later times, to similar products, without regard to the town or neighbourhood of their origin.

A careful historical sketch introduces us to the early Dinant, its workers and its associations, as well as to its struggles with neighbours and rivals. Mr. Perry notes the influence of prior Scandinavian work upon the character which the Dinantois impressed on their productions; and, in fact, his researches have led him far afield, so that we obtain a very interesting and comprehensive view of the whole subject, compressed into a few chapters.

Nor are practical details of manufacture omitted. There were many factors involved in the evolution of Dinant's speciality; and the materials had to be gathered from far and near, as is shown by entries of port dues, tariffs, and charters dating back to the twelfth and thirteenth centuries.

While admitting the difficulty of asserting any precise geographical boundaries in treating of the various schools of work, Mr. Perry has wisely chosen to adopt the principle as far as possible, Germany and France claiming the larger part of his attention. We could have wished the author had been able to give us more examples of Italian work, though doubtless, as he hints, those Southern artists were occupied with the more precious metals at a time when their Northern *confrères* were chiefly engaged on copper and bronze.

In the concluding chapters, those involving chiefly a description of the numerous objects so excellently illustrated by the plates, and by the illustrations in the text, the author is able to "let himself go," so to speak, and undoubtedly demonstrates his particular aptitude for that class of writing. He modestly expresses the fear lest his pages "may seem too much in the nature of a *catalogue raisonné*," but his task is carried out with too much skill, and the interest evoked is too great

for such an impression to trouble his readers. Historical details, such as the daring use by Napoleon I. of the great Dagobert's famous chair, which he had placed on the cliffs opposite the English coast in 1804, are cleverly mingled with others of a lighter tone, as when our author suggests the probable relationship of the *chaudronnier ambulant* of the Middle Ages with his more modest *confrère* our travelling tinker of to-day.

In the valuable notes on Sanctuary Rings or Knockers, Mr. Perry quotes what he calls the "plausible" theory that these rings were knockers, though he points out that there was never any boss on them for striking, or any plate on the door to receive the blow. Surely there is little reason to suppose that knockers would be required, or be of any use, on a building such as a mediæval church, which when in use would be always open, and when not in use would hardly be provided with a door-opener in constant attendance. The author's own conclusion seems the correct one, namely, that these rings "were in some way associated with the right of Sanctuary." There must be some special reason why the ring—obviously the important feature—should always be in the mouth of a creature intended to represent, however conventionally, a lion rather than any other animal. Is it not, indeed, possible that this practically universal choice might serve as a useful clue towards discovering the real origin and purpose of the rings themselves? Mr. Perry considers the "Durham Knocker" to be the most ancient example of this feature among those to which he is referring. If so, might not the desired explanation be sought for at home? We, however, incline rather to the view that it may have a Southern, perhaps a pagan, origin.

The illustrations to the book are good throughout, and there is a useful index.

Cannes. WILLIAM SCOTT [*A.*].

Mr. Batsford's New Issues.

Among the new books announced in Mr. Batsford's recently issued catalogue of books relating to architecture, the fine and decorative arts, building construction, sanitation, &c., are the following:—"Old Cottages and Farmhouses in East Anglia," by Horace Dan and Basil Oliver; "English Ironwork of the Seventeenth and Eighteenth Centuries," by J. Starkie Gardner; "The English Fireplace," by L. A. Shuffrey and W. Galsworthy Davie; "The Colleges of Oxford," by Aymer Vallance; "English Staircases," by Walter H. Godfrey; "The Development of Building Estates," by Tom Bright; "Civic Art," by Thomas H. Mawson; "Modern Architectural Construction and Design," by Herbert Y. Margary. The third and final part of "The Domestic Architecture of England during the Tudor Period" will be issued early in 1911, and a new and revised edition of Millar's "Plastering—Plain and Decorative" is in the press.

CORRESPONDENCE.

Music at the Institute Functions.

Royal Societies Club, St. James's Street, S.W.: 5th December 1910.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—It is more than thirty years since I first endeavoured, by a comment in the public Press, to draw the attention of the Institute authorities to the inartistic and illogical manner in which music was introduced as a feature in entertainments given by the Institute: an attempt which "valued me" (as the French put it) the wrath of the then Secretary. After all these years, things are no better, and the old Philistinism goes on just the same. Let me make one more effort to get an improvement in this respect.

The present arrangement usually is that a band plays its loudest in one of the rooms, and the guests talk their loudest in the adjoining room. The louder the band plays, the louder people talk, and the band is only heard at all as a kind of irritating pulsation of noise going on underneath the conversation. A more futile method of entertainment, and a more barbarous treatment of the art of music, could hardly be imagined. As a natural consequence, the musical selection is always the most commonplace and trumpery stuff, for it would be no use throwing away good music under the circumstances. At the Town Planning Conversazione I did get a fine minuet of Mozart's put in as part of the instrumental programme, but I might as well have let it alone, for no one could hear a note of it.

We profess to consider architecture an art, and that we are consequently a society of artists; and, I would ask, is that the way for a society of artists to treat a beautiful sister art—to lug in the dregs of music as a noise to accompany conversation? If music is to be a feature in the entertainment, let a selection of good music be played at a stated time in the evening, and let people be invited to listen to it. There would be some sense in that, and some value in the introduction of music into the evening's programme. There is none at present. The continual droning and pulsing of the band while people are trying to talk is simply an irritant; the music is not worth listening to for its own sake, and it is a nuisance if you do not listen to it.

I hope that some attempt will be made in future to use music at the Institute entertainments in a more rational and artistic manner, or else that its introduction as a stimulant to conversation (I suppose that is the idea) may be abandoned. To use music in that way is to use it not as an art, but as a vulgar kind of sensuous stimulant, unworthy of educated people.

Yours faithfully,

H. HEATHCOTE STATHAM.

THE LATE RALPH SELDEN WORNUM [*F.*].

Ralph Selden Wornum, born in 1847, was the eldest son of Ralph Nicholson Wornum, the well-known critic and writer on art, for many years Keeper of the National Gallery, where young Ralph passed his youth and early manhood, the Keeper's residence being at that time in the building itself.

He was a pupil of Professor T. Roger Smith, and on the expiry of his articles worked for a short time in the office of William Burges. Entering the schools of the Royal Academy in 1868, he was successful in the competition for the travelling studentship in 1871, the subject for design being a museum of natural history. On his return from a twelvemonth's tour in France, Italy, and Germany he practised for some years in partnership with Mr. Edward Salomons, in conjunction with whom he erected several country houses, also numerous buildings in London, among these the picture galleries in Bond Street for the late Sir William Agnew.

In 1888 he was elected a Fellow of the Institute. It was about this time that the Queen Regent of Spain, attracted by the excellence of some buildings from his hand at Biarritz, entrusted Mr. Wornum with the erection of "Miramar," her summer palace at San Sebastian. Much other work was done by him in this district; among the more important buildings are: at Biarritz, residences for Lord Wimborne and John Pennington Mellor, Esq., and at Santander, for the Duke of Santo Mauro; a house at St. Jean de Luz and, farther afield, a large house at Gibraltar for Don Pablo Larios. Among his more prominent buildings in London are: No. 138 Piccadilly, for Sir William Beckett and the adjoining No. 139 for Lord Glenesk; No. 41 Upper Brook Street for Leonard Clow, Esq.; No. 24 in the same street for S. E. Kennedy, Esq.; flats and offices in Broad Court, Covent Garden; 35 Hill Street for Carl Meyer, Esq. Of the many country houses erected by Mr. Wornum the following are the most noteworthy: Rusthall, Tunbridge Wells, with observatory, for F. Madeau, Esq.; Mongewell, Wallingford, for Alex. C. Fraser, Esq.; The Islet, Maidenhead, for E. Wagg, Esq.; Tylney Hall, Hampshire, for Lionel Philipps, Esq.; house at Staines for J. C. Fraser, Esq.

Comparatively few of Mr. Wornum's designs having been published by him, the range and high merit of his work are hardly sufficiently well known to his professional brethren, distinguished as it is by vigour and imagination, tempered by taste and scholarly refinement. In his compositions he had the gift of always striking the appropriate note: that of dignity in his street architecture, of simplicity combined with, apparently, artless picturesqueness in his rural work.

The impressionable years of youth having been passed in daily touch with the treasures of our National Gallery, he was early imbued with a love for the arts. While adopting that of architecture as a career, he had a keen appreciation and fine critical knowledge of the sister arts. A facile sketcher, his renderings of the human form are full of character and charm. Music, to which he was enthusiastically devoted, was the chief relaxation of his leisure hours, and not as a listener only, he being an accomplished executant on his favourite instrument, the violin. Interested in all sorts and conditions of men and things, abounding in genial humour and the joy of life, he was a delightful companion, whether on travels or at the fireside.

After a long illness, due to heart weakness, borne with patient courage, he died at North Deal on the 14th of November last. His death has deprived the architectural profession of a distinguished ornament and afflicted his intimates with a sense of grievous personal loss.

H. Walter Lonsdale [*Hon. A.*].

The late Mr. Wornum and the R.I.B.A. Examiners in Architecture.

On the motion of Mr. Burke Downing, the following Resolution was passed at a meeting of the Examiners in Architecture held at the Royal Institute of British Architects on Wednesday the 7th December 1910:—

"The Examiners in Architecture of the Royal Institute of British Architects desire to express their sense of the great loss sustained by the Institute in the lamentable death of Mr. R. Selden Wornum, to whose work as an examiner for more than twenty years and in the organisation of architectural education the Royal Institute and a succession of generations of students to whose interests he devoted time and care without stint are so deeply indebted. It is with a sense of personal loss that his colleagues lament the death of one who brought to their counsels a wonderful power of insight and sympathy and ripe experience in dealing with the problems presented, and they desire to express their sincere condolences and sympathy with his widow."

9 Conduit Street, London, W., 10*th December* 1910.

CHRONICLE.

Professional Conduct: Council Resolution.

The attention of Members and Licentiates is called to the following Resolution passed by the Council at its meeting of the 21st November, which will form No. 6 of the Resolutions relating to Professional Conduct [see Kalendar 1910–11, p. 12]:—

> "Any Member or Licentiate of the Royal Institute who takes part in any competition as to which the Council shall have declared by a Resolution published in the Journal of the Royal Institute that Members or Licentiates shall not take part because the conditions are not in accordance with the published Regulations of the Royal Institute for Architectural Competitions, shall be deemed to be guilty of unprofessional conduct."

St. Paul's Bridge: Institute Deputation to the Court of Common Council.

A deputation representing the Council of the Institute, consisting of the President, Mr. Leonard Stokes, Mr. Walter Cave, and the Secretary of the Institute, attended the meeting of the Court of Common Council on the 1st inst. and submitted a petition relative to the construction of the proposed new bridge over the Thames. The deputation was introduced by Colonel Beningfield.

The petition was in the following terms:—

To the Right Hon. the Lord Mayor, Aldermen, and Commons of the City of London in Common Council assembled.

The Humble Petition of the President and Council of the Royal Institute of British Architects

Sheweth,

That your Petitioners have had before them the Report of the Bridge House Estates Committee containing a scheme for the New Road and Bridge in regard to which they understand that Parliamentary sanction is about to be applied for. Your Petitioners venture to urge the advisability of obtaining architectural advice upon the whole proposal, which involves artistic considerations of great importance.

Your Petitioners, with the support of the many distinguished persons whose names are attached to this Petition, therefore humbly pray that you will give careful consideration to this aspect of so important a public undertaking.

And your Petitioners will ever pray, &c.

The petition bore the signatures of the President and Council of the Institute, with those of three Past Presidents, Messrs. Thomas E. Collcutt and Ernest George, A.R.A., and Sir Aston Webb, C.B., R.A. Among numerous other signatories were Lord Curzon of Kedleston, Lord Plymouth, Sir Edward J. Poynter, P.R.A., Sir Lawrence Alma-Tadema, O.M., R.A., Sir Francis S. Powell, Sir Wm. Richmond, K.C.B., R.A., Dr. Arthur John Evans, F.R.S., Edwin A. Abbey, R.A., George Clausen, R.A., Thomas Brock, R.A., A. S. Cope, R.A., Frank Dicksee, R.A., Sir George Frampton, R.A., W. Goscombe John, R.A., Solomon J. Solomon, R.A., T. G. Jackson, R.A., Sir Alfred East, A.R.A., F. W. Pomeroy, A.R.A., Sir James Linton, Walter Crane, Gerald Moira, and several Fellows and Hon. Associates of the Institute.

The President, replying to Mr. W. H. Thomas, Chairman of the Bridge House Estates Committee, said he did not suggest that the Bridge House Estates Committee should first submit their plans to the Institute, but thought that before they were finally agreed to some architect should be consulted.

In answer to Alderman Sir Henry Knight, who asked if the deputation imagined that the Corporation would proceed in a matter of this kind without proper architectural advice, the President said that, so far as he could judge, the Committee had gone a good way without obtaining it. What the Institute suggested was that, before the details of the scheme were passed, the best architectural advice should be obtained. In such a matter the engineer and architect should work together. What he was afraid of was that advice would be sought when too late, as the Committee had already decided to promote a Bill for the building of the bridge. The work demanded architectural knowledge from its inception.

Mr. Thomas read several extracts from the Address delivered by the President at the opening of the Session. The first quotation was to the effect that Mr. Stokes considered that the advice a previous deputation from the Institute had given the Committee had been disregarded.

Mr. Stokes replied that such was his opinion.

Mr. Thomas: Did you suggest that we should advertise for a scheme?

Mr. Stokes replied in the affirmative, and, answering further questions by the same interrogator, stated that he had said the Institute would oppose the Corporation Bill in Parliament. It would do so in the public interest.

Mr. Deputy Wallace: Would it be a wise thing to obtain advice on the scheme apart from the design?

Mr. Stokes: We want you to get an architectural opinion on the whole scheme.

Mr. Deputy WALLACE: Does Mr. Stokes not think that the Bridge House Trust is the best authority to arrange and settle the scheme?

Mr. STOKES: It would be unwise to go on without the best advice.

Answering the Deputy, Mr. STOKES said he was aware that engineers would have to be consulted, but he considered that the services of an architect ought also to be obtained to help the Corporation.

Mr. Deputy ELLIS: What do you seriously complain of? Is it the approach of the bridge to St. Paul's?

Mr. STOKES: I am confining myself entirely to asking the Corporation to take the best advice it can get.

Mr. BANISTER F. FLETCHER: You think it quite possible that our scheme is wrong.

Mr. STOKES: It would be the better for some consideration from the architectural point of view.

Mr. FLETCHER: Is it not a fact that Waterloo Bridge was designed from the first by an architect?

Mr. STOKES: I believe so.

Mr. Deputy EDWARDS: Should we delay proceeding with the Bill until the Court has had an opportunity of consulting the Institute?

Mr. STOKES: I have never asked the Corporation to consult the Institute. The Institute as a body would have no right to give an opinion.

Replying to other questions from members, Mr. STOKES said he had no great opinion of Blackfriars Bridge, and he would rather not say how the best architectural advice was to be obtained.

On the motion of Colonel BENINGFIELD, the petition was referred to the Bridge House Estates Committee for consideration and report.

A Menace to St. Paul's Cathedral.

Mr. Mervyn Macartney [*F.*], Surveyor to the Fabric of St. Paul's, in a letter which appeared in *The Times* of the 6th inst., says he feels it necessary to recall and emphasise the many warnings that have been issued officially, and otherwise, from time to time regarding the safety of St. Paul's.

The great danger (Mr. Macartney says) is draining the water from the subsoil. This was pointed out in a report, issued jointly in 1831, by Cockerell, surveyor to the fabric, George Rennie, the engineer, and Robert Smirke, the architect, protesting against the excavating for and the building of a sewer which was to run on the south side of the Cathedral and parallel to it. The danger was averted, thanks to the Corporation's accepting the views expressed by these experts.

Longman, author of "The Three Cathedrals of St. Paul's," in 1874 utters the same warning. More recently, in 1890. the question of the Cathedral's safety was again raised on the promotion of the Central London Railway Bill, and Mr. Penrose, then the surveyor to the fabric, showed in his report that it would be fatal to make excavations near the building. He wrote that "these foundations are laid upon a comparatively thin bed of marl, below which there exists more than 40 ft. of loose sand and gravel. It must also be remembered that St. Paul's Cathedral is erected on the top of a considerable hill. If the water which is mixed with these strata was withdrawn the result might, in my opinion, be exceedingly serious, as this must cause a very considerable collapse in the strata themselves."

The proposed construction in 1901 of a tube railway up Ludgate Hill and Carter Lane was another threatened danger, which was, however, fortunately abandoned.

Lastly, I would draw attention to the report "on the condition of St. Paul's Cathedral" issued in 1907 by Mr. Thomas Collcutt, Sir Aston Webb, and Mr. John Belcher and the present writer, from which I quote the following extract:—"After mature deliberation and a thorough examination of the Cathedral and its foundations we are of opinion that in spite of these settlements there is no immediate necessity for any extensive remedial measures to be undertaken; but this conclusion is based on the assumption that the present conditions of the subsoil and the present water level will be maintained."

This report owed its existence to the fact that it was proposed to construct a sewer in proximity to the Cathedral. As I mentioned in my last letter of the 21st November, the London County Council considerately changed its route in deference to this protest, backed as it was by the Archbishop of Canterbury, the Bishop of London, and the Lord Mayor—the trustees of St. Paul's.

In protesting once more against the proposed tram-subway at the east end of the Cathedral I desire to draw attention not only to the frequency but also to the high authority of the warnings with regard to interference with the stability of the Cathedral, and to plead for their proper consideration.

It is not reassuring to find that buildings and churches on the line of the tube railways have shown undoubted signs of collapse. The most apposite case is that of Holy Trinity Church in Kingsway, which was condemned as unsafe and pulled down. The fractures in the building extended to no less a distance than 90 ft. from the tram-subway, which is at a depth of 24 feet from the road level and about 10 feet below the foundations of the church. The conditions at St. Paul's are almost identical. The proposed subway will come within 73 feet, and the excavations will be about 7 feet below the foundations of St. Paul's. It is contended that, the line of the subway being through existing sub-basements, the conditions in the subsoil will not be materially altered. But there is a vast difference between isolated cellars and a continuous tunnel.

If, in the bridge scheme, the linking up of the North and South tramways of the London County Council is the chief consideration, then I should suggest the purchase of part of the Blackfriars railway bridge (two out of the twelve tracks), which might be used for a tramway by linking it to that already existing at the south end of Blackfriars Bridge, passing northwards over the river through Ludgate Hill and Holborn Viaduct Stations to Snow Hill Station. Thence the tramway might emerge from its subway into Farringdon Street and, again running underground to Aldersgate Station, rise from that point to reach the terminus in Aldersgate Street.

One great advantage of this scheme would be that two-deck cars could cross north and south, which would not be possible by the proposed St. Paul's route, which, moreover, does not really effect the end in view—

namely, the linking up the North and South systems, although this may be carried out eventually. A dead-end so near St. Paul's would have its own special drawbacks.

The Licentiateship: Meetings in the Provinces.

The Council, with the assistance of the Councils of Allied Societies, are arranging a series of meetings of architects in the provinces with the object of explaining the policy with regard to the formation of the new class of Licentiates of the Institute. Some of the meetings have already been held and have been addressed by members of the Institute Council. Mr. Edwin T. Hall [*F.*] on the 1st inst. addressed a meeting in the rooms of the Manchester Society presided over by the President, Mr. P. S. Worthington [*F.*]. Among the numerous architects attending were many who at present are unattached to any society. Mr. Hall explained the past history of the movement and laid before the meeting the benefit to young architects in practice and to capable assistants of joining the new class. A great number of questions were asked and replied to. Altogether the meeting was a very gratifying one; there appeared to be considerable enthusiasm, and many demands were made for application forms.

Messrs. A. W. S. Cross [*F.*] and George Hubbard, F.S.A. [*F.*], have addressed two meetings held at Cardiff and Swansea under the auspices of the Cardiff, South Wales and Monmouthshire Society. Mr. G. A. Birkenhead, Hon. Secretary of the Society, states that the meetings have been very successful. Resolutions were passed at both unanimously expressing appreciation at the action of the Institute. A large number of the architects in the Cardiff province have now filled in the Licentiate application forms and a considerable accession to the ranks of the new class is likely to result.

Standardization Trade Mark for Registered Plumbers.

The Board of Trade, under the powers enabling the Board to allow the registration of special trade marks where the Board deem it to be to the public advantage, have granted to the Worshipful Company of Plumbers the registration of a Standardization Trade Mark to be used in connection with the work of Registered Plumbers. The regulations prescribed by the Board for the use of the mark provide that it shall be used as far as admissible in connection with water pipes and fittings complying with the Standard Specifications of the Incorporated Joint Committee on Water Regulations. Certificates issued by the Company to plumbers desiring to execute orders for marked work contain the following chief conditions: (1) The plumbers authorised to mark the work in manner prescribed by the Company shall be registered under the provisions in force for the National Registration of Plumbers; (2) The certificates shall be renewable annually and shall not be assignable; (3) The holder of the certificate, or, if he be an employer, his authorised employé, shall be responsible for the soundness and efficiency of the work executed; (4) The certificate is liable to cancellation in default of the holder's compliance with the conditions. The names and addresses of Registered Plumbers holding certificates for the current year are required to be notified to the Board of Trade.

The practical influences which the system of registering plumbers and marking their work must necessarily exercise upon their training practice and responsibility will be readily appreciated. The prevalent system of sub-contracting and extreme competition has a strong tendency to produce an inferior class of work, although some of it may not be bad enough to condemn, especially in the absence of any recognised standard to compare it with. The Plumbers' Company claim that the system they have adopted of registering plumbers and standardizing and marking their work will arrest this tendency and secure to the public an additional safeguard to the ordinary inspection.

The Council of the Institute having been asked by the Plumbers' Company for an expression of their views upon the new system, referred the matter to the Science Standing Committee, who have pronounced unanimously in its favour. The Council have therefore expressed its approval of the system, and are using this means to commend it to the support of members of the Institute and of the various Allied Societies. It is understood that an Association of Registered Plumbers is in course of formation for the purpose of undertaking the supply of skilled workmanship in London and other centres.

Properties and Ingredients of Paints: Proposed Colour Standard.

The little book recently issued by the Institute, entitled *Notes on the Properties and Ingredients of Commercial Paints*, compiled by the Science Standing Committee, is to form the subject of discussion at the meeting of the Paint and Varnish Society on the 15th inst., and the presence of architects on the occasion is particularly invited. The discussion will be opened by the President of the Society, Mr. Gaston Depierres. Another subject of importance to architects will be brought forward at the same meeting by Mr. A. S. Jennings—viz. "The Possibility of Introducing a British Standard Colour Card for Paints and Distempers." As the Society is an independent body whose object is to benefit the industry as a whole, it has been considered that arrangements may be made whereby the Society could produce a Standard of this description for the use of architects and others, so that in the future certain names would apply to definite colours in the Standard system. Mr. M. Bennett Blackler, Ph.D., is the Hon. Secretary of the Society, and the meetings are held at St. Bride's Institute, Fleet Street.

District Surveyors: Powers and Duties: Fees.

The Building Acts Committee of the London County Council in a recent report state that they had had under consideration the question of the powers and duties of District Surveyors under the London Building Act, 1894, with regard to the Council's school buildings. Section 201 (5) of the Act provides that public buildings belonging to or occupied for public purposes by the City Corporation and the County Councils of London and Middlesex shall be exempt from the provisions of Parts VI. (Construction of Buildings) and VII. (Special and Temporary Buildings and Wooden Structures), and by section 5 (27) the expression "public building" is defined as meaning, *inter alia*, a school, college, or place of instruction (not being merely a dwelling-house so used). Part XIII. of the Act provides for notice to be given to the District Surveyor of intention to carry out works, and for payment of fees to the District Surveyor as set out in the third schedule of the Act. Counsel has advised that the Council's schools are public buildings used for public purposes within the meaning of section 201 (5), and as such are exempt from the provisions of Parts VI. and VII. of the Act, but the District Surveyors are not prepared to accept that view or to agree to a reduced scale of fees such as the Council could be advised to pay. One of the metropolitan police magistrates has decided that the Council's school buildings are exempt from those parts of the Act, while another has taken the contrary view. Efforts have been made to have the question of exemption settled by the High Court, with the result that, while the Court gave no decision on this particular point, the Court pointed out that, even assuming that the Council's contention is right, such buildings would not be exempt from the provisions of Part XIII. It will be observed that the question is in a most unsatisfactory state of doubt, and the Committee have therefore come to the conclusion that the only really effective way of dealing with the matter is by legislation, which should remove the doubt, and also set at rest the questions as to the service of notice and payment of fees. If the District Surveyors are in no way responsible for the supervision of the construction of the buildings, there seems no sufficient ground for giving them notice and paying fees, and, therefore, it is thought by the Committee that the legislation should also exempt the buildings from the provisions of Part XIII. of the Act of 1894, and consequently also from the provisions of the London Buildings Acts (Amendment) Act, 1905, and the London County Council (General Powers) Act, 1909.

The Committee have also had under consideration the question of the fees payable to District Surveyors in respect of additions to, or alterations, and other works in, completed buildings. The third schedule to the Act of 1894 provides that for the supervision of every such work the District Surveyor shall be entitled to one-half of the fee charged in the case of a new building calculated upon the area of the old building, and in the case of public buildings, and buildings divided into separate sets of chambers or tenements by party structures, this fee is increased by one-half. This frequently results in the fee payable being out of all proportion to the cost of the work or the amount of supervision entailed. Many complaints have been made by metropolitan borough councils, and others, on this subject, and the Council is urged to take steps to amend the law so that the fees payable may be more proportionate to the work done. It should be noted that District Surveyors usually accept a reduced fee in such cases. The Committee think, however, that it would be better if the fees in such cases were based, for additions, on the area and height of the addition, with such part of the old building as is structurally affected (the fee to be paid being that provided in the third schedule for a new building of the same character, and of equal area and height); and for alterations, on the area and height of the particular portion of the building structurally affected (the fee to be paid being one-half of that payable for a new building of the same character, and of equal area and height). The principle of restricting the fee to the area and height structurally affected was adopted in Part IV. of the London County Council (General Powers) Act, 1909.

Reinstatement of Fellow.—Mr. William Henry Duffield, of 5 Bridge Row, Cannon Street, E.C., has been reinstated by the Council as Fellow of the Royal Institute.

Professor Blomfield's Paper on "Pierre Lescot and Jean Goujon," read at the General Meeting of the 5th December, with the report of the discussion, will appear in the next issue of the Journal.

ALLIED SOCIETIES.

Leeds and Yorkshire Architectural Society The Opening General Meeting of this Society was held at the Queen's Hotel, Leeds, on Thursday, 10th November, when the President, Mr. Sidney D. Kitson, M.A. [*F.*], delivered his Address. After some expressions of appreciation of the work done by his predecessor in the Chair, Mr. Percy Robinson [*F.*], and of the services rendered the Society by the late Hon. Secretary, Mr. Albert E. Kirk [*A.*], now *Vice-President*, Mr. Kitson continued:—

With regard to our Society, I can imagine, even if I have not actually heard, the reply of a young architect on being asked to join: "What good is the Society to me?" Let us answer that question. It is an old commonplace, but none the less true, that union is strength. This commonplace truth has been acted upon by all trades and professions except, I believe,

that of domestic servants, with the result that every trade is in a position to-day to assert its rights and to resist abuses to which, without that union, it would be a prey. Our Society is federated with the Royal Institute of British Architects, and thus forms a branch of the official guardian of the architect's interests in this country. The long controversy which has been waged round the question of Registration seems now to be dying down in the very general recognition of the fact that the legal registration of architects will be to the benefit of the profession and also of the art which we practise. By loyal membership of our Local Society the hands of the Institute are strengthened, and the time that must necessarily elapse before the goal is reached will be appreciably shortened.

Corporate unity will never supply the place of individual character and energy—a fact sometimes lost sight of by trades unions—but individual capacity cannot attain its full development in a position of isolation. Our Society affords opportunities for architects to know one another better : we can discuss our several difficulties, aspirations, and beliefs, and thus create a saner and healthier atmosphere than is to be obtained in an attitude of aloofness. Our Lectures give us the opportunity—not always sufficiently appreciated—of hearing the opinions of experts upon the manifold aspects of our art . . . And it is hoped that our new rooms will long prove to be a common meeting-place for all the members of the Society upon a footing of cheerful and friendly equality. The Council watches carefully over the interests of all members, and endeavours to advance the position and prestige of the profession in the province which it serves.

Such are some of the reasons why every young architect within our area should join the Society. Instead of his question " What good is the Society to me ? " he will ask himself, " What good am I to the Society ? " and he will proceed to answer that question by unselfish personal service to the Society, thereby advancing the interests of the art he professes, and incidentally making himself a more useful member of the community.

The Council of the Society has formed during the past year a Town-Planning Act Consultative Committee, with Mr. H. Ascough Chapman as its Secretary. It is hoped that this Committee will prove of value in the discussions of schemes which may from time to time be brought forward under this Act. The controversy which raged round the Act while it was still a Bill has now vanished, and friends and opponents alike are agreed in the endeavours to make the Act workable and efficacious.

The best argument in favour of the Town-Planning Act which exists is our West Riding towns themselves, which, from industrial villages " without form and void," have been allowed to expand anyhow without thought of the future, or at any rate without the statutory power to make that thought operative.

A hundred and fifty years ago the author of perhaps the finest poem of the eighteenth century, the " Elegy written in a Country Church Yard," wrote to a friend that, after a long and enthusiastic day spent at Kirkstall Abbey, " he lay that night in Leeds, a smoky, ugly, busy town." Gray's description still holds good to-day. Leeds is still a smoky and therefore an ugly town, and, so long as our buildings take upon themselves within a year after erection a permanent coating of dismal black, it is almost unreasonable that the public should be expected to pay for good architecture.

An eminent London architect was written to some years ago by our then Honorary Secretary, the late Frank Bedford, to ask if he would lecture before our Society upon some architectural subject. His reply was in the negative, and he added, " What you require in Leeds is not architecture but a hose pipe." It must be admitted that his reply, without being aggressively polite, contained some germs of truth, and I firmly believe that our posterity a hundred years hence will shudder at our barbarity in enduring the atmosphere which we now endure, just as now we shudder at the barbarity of our ancestors who endured, or even enjoyed, cock-fighting, bull-baiting, and public executions. Putting on one side the loss of self-respect and the general lowering of vitality which our atmosphere creates, we architects are specially interested in the mitigation of the smoke evil, for while it exists, buildings are spoilt and colour is non-existent ; that " grand, elemental passion of mankind for noble building " is rendered languid and inoperative. What is the remedy for the present state of affairs, and how long will it take that remedy to work its cure ? Some people will tell you it can be cured by legislation, and the late Chairman of the West Riding County Council once advanced the delightful suggestion that all offending manufacturers should be obliged by law to reside for six months of the year next door to their works—and on the leeward side. But legislation has a habit of not curing the evils which it was framed to cure. The best remedy would seem to lie in the growing use of electric power, and those who are fostering this extension of electric power are doing a real service to the community. It is on its universal application to industry that many far-seeing men base their hopes for better atmospheric conditions in our manufacturing towns. The growth of a healthy public opinion is also doing something already. It is not necessary to abuse people or to irritate the average man by preaching at him in order to make him see that the West Riding of Yorkshire would be a more cheerful place to live in if the smoke nuisance were removed. For, happily, the arguments of the old " muck means money " school are not now regarded as being either humorous or even approximately true. There are too many examples in our midst of debilitated and joyless humanity, of stunted vegetation, and disfigured buildings to allow of the matter being treated in any but the most serious spirit. Under better atmospheric conditions it would be a joy to people to *live*, instead of, as is too often the case at present, merely *existing*, or seizing the pardonable opportunity whenever it offers itself to fly from the smoke and build elsewhere the houses of their choice.

There are many ways in which members of our Society can train themselves to think of the best means by which our City can develop itself on methodical, orderly, and coherent lines. The study of plans, contours, traffics, and tram routes ; the tendency of the population to migrate towards certain localities ; the suitability of certain districts for factories and works, and all the thousand and one items of local knowledge which go towards the making of a thorough understanding of the problems involved. Then, with the training of an architect at your backs, you are in a better position than a member of any other profession to evolve orderly and dignified suggestions for your city's improvement.

There can be no better exercise for the architectural student than essays of this kind, no better employment for the leisure of the older architect. I wish the Cor-

poration could be persuaded to inaugurate, say, two competitions—one for the best design for improving the central area of Leeds, the other for the lay-out and correlation of the suburbs. It would be money well spent, and the prize designs would form a basis upon which future improvements could be carried out.

The Royal Institute wisely seized upon a time when the imagination of the whole of Europe is alive to the matter of Town Planning to hold their International Congress, and the success of that Congress is now a matter of history. Moreover, the Royal Academy made the unexampled concession of opening its doors to an exhibition of plans, drawings, and models illustrative of the art of laying-out cities.

All this is to the good. It demands of architects a wider vision, a larger field of achievement. But it is as well to remember that detail must not be forgotten in the newer outlook. The almost passionate study of detail during the Gothic revival led to the renewal of interest in craftsmanship and to the due appreciation of the importance of material and texture in building which is becoming more in evidence every day. We owe a great debt of gratitude to the Gothic revival, and the lessons learnt from it must not be forgotten if we are to take our place as leaders in the larger schemes of corporate planning and co-operative development which are in the air to-day.

So far as Leeds itself is concerned it seems probable that for some little time to come the Town-Planning Act will not be called into operation. Our Committee will, perforce, have to hold a watching brief. There will thus be ample opportunity, when the time comes, as come it must, for the production of a suitable scheme, and to profit by the experiments which will have been made in other places.

The Corporation of Leeds have in the past been acting while others have been talking, and the New York Road is a fine monument to the unselfish and untiring work of the Development Committee, whose Chairman we are proud to possess as a member of the Council of our Society. Much work yet remains to be done by that Committee, and until that is accomplished it is unlikely that they will turn their minds to other problems. For it must be remembered that town planning costs money, and it is impossible that it should be otherwise, since the essence of town planning consists in the restriction of the number of houses per acre. Wise forethought and a wider outlook for the future are particularly necessary in the growing suburbs, and it is here that individual developers would in most cases gladly accept guidance, if only for their own protection.

But in any case let us congratulate ourselves that the town-planning idea has become popular, for its indirect influence upon architecture and architects is bound to be immense. It has already caused the public to obtain a larger grasp of the real inwardness of architecture, and to look upon it less as a matter of specimen details.

Half a century ago the Gothic revival was the motive force in architecture, the intimate study of detail was urged upon the student as his highest duty. Ruskin had published in 1851 his *Stones of Venice*, dealing with the capitals, the columns, the panels—not the buildings of Venice, much less the grouping of one building with another.

The public mind has, however, been prepared by this study of detail to appreciate the wider aspect of the essential qualities of architecture, such as breadth, refinement, and scale. It has begun to see that an ornamented building is not always necessarily a "handsome" building, or an unornamented one always necessarily an ugly one. The public mind has also come to see that the right grouping of buildings is of elemental importance. The great strides made by photography in recent years in the adequate portrayal of buildings, and the well chosen and beautifully illustrated examples of old houses published by such papers as *Country Life*, have also had a great influence on public taste. The more human and rational theory of the development of historic styles in building has also done much towards the popularisation of the study of architecture. In the old days when different styles were divided up into separate compartments like specimens in a museum, architecture was regarded as a kind of occult science to be avoided by the average person, who would have been glad to have known more about the house in which he lived or the church in which he worshipped had that knowledge been made reasonably simple for him. Now that the principle of evolution has been applied to the history of architecture the tangle has unravelled itself and the story is as simple as it is fascinating to the lay mind.

The public are therefore in a better position than formerly to appreciate good building and to demand it from architects. Let us see to it that the supply is more than equal to the demand.

Last summer Mr. John Burns, in addressing some Local Authority, made use of the following words, "The more money you spend upon architects the less you will have to spend upon the governors of gaols." Gentlemen, I can imagine no truer or more weighty words, no words more in harmony with the sentiments of the members of our Society. I would like to see them written up in letters of gold in every Council Chamber in the West Riding.

I do not know how much money is being spent at the present time upon governors of gaols, but certainly not very much is being spent locally on architects. If the building trade has lifted itself slightly from the abyss into which it sank some years ago, there are many influences still at work to retard its upward progress. But I believe these influences are only temporary, and I have confidence that matters will right themselves in time.

The building industry has been passing through a crisis in this country such as can only be compared with the three great waves of depression which have happened in our history, and they were all consequent upon political action. The first occurred in Henry VIII.'s reign, after the dissolution of the monasteries and the consequent uncertainty of tenure in property; the second was caused by the Civil Wars in the middle of the seventeenth century; and the third was in the earlier years of the nineteenth century, as a result of the exhaustion which followed the wars with France, and of the political agitation which accompanied the Reform Bill. Yet in every case there followed a period of security when the building trade flourished and political agitation was dormant. After the dissolution of the monasteries came the age of Elizabeth with its splendid building achievements. After the Civil War came the age of Sir Christopher Wren. The latter part of the nineteenth century was a time of almost feverish building activity. The recent depression has undoubtedly been caused by the exhaustion of the country consequent upon the South African war, and by the far-reaching and unsettling Acts of Parliament

concerning property to which we have within the last few years been witnesses, but the effects of which no man can so far foresee.

There is a local story of two manufacturers who met at dinner in one of the blackest years of "the hungry forties," and after the third bottle of "the archbishop's port," one of them rose from the table and, slapping his thigh, said emphatically. "Whatever the outlook, I believe in Old England yet." The marvellous industrial renaissance, in which Leeds has had so large a share, began shortly afterwards.

There are signs that the coming democracy will be intelligent and generous patrons of architecture, and that they will take their place, like the Church in the Middle Ages, as promoters and directors of a sane and prolific school of building. After the collapse of the Church at the Reformation the aristocracy took its place as the patron of architecture, and proved to be a comprehensive, if selfish, employer. The plutocracy which succeeded was both ignorant and indifferent, and its patronage of architecture must, speaking broadly, be pronounced a failure. Let us look forward, therefore, to a period of rest from political agitation and, consequently, to a period of security, when the democracy can work out its dreams for better housing and noble civic planning: to a period, in fact, when *all* the money shall be paid to architects and none to the governors of gaols.

There is a matter of great importance for the furtherance of which I would urge you all, on behalf of the Royal Institute, to use your best endeavours with any of your friends to whom the case may be applicable. The admission of members of the newly created Section of Licentiates at the Institute only remains open until March next. The Institute is making a businesslike and strenuous effort to include all *bona-fide* practitioners and assistants of experience within its ranks. It is to the interest of this Society, whose members are practically solid for statutory registration, to assist the Institute in every way it can in this matter. For, with its hands strengthened by the inclusion of these new members, the Institute can go forward with a coherent authority at its back to demand legal recognition for architects. Unless this demand is practically unanimous it is not likely that Parliament will accede to it.

Finally, I should like to offer, with very great diffidence, a few words of advice to our younger men and students. There exists at present among the younger members of our Society a seriousness of purpose and a standard of design which is worthy of all praise. I believe that in the future these qualities will bear good fruit for the benefit of the city. While the energies of the nineteenth century were devoted to purely utilitarian progress, to sanitation, to water supply, to quick transit and such like, now something more is demanded; some sense of dignity, orderliness, and civic beauty. It is to the architects that people will look to supply these qualities. Your equipment, therefore, must be comprehensive and your training thorough. The opportunities offered by the Leeds Education Committee at the School of Art are excellent. Take every advantage of them.

Refuse to be influenced by every passing architectural fashion. It takes a lifetime thoroughly to master any one style of architecture, and since our modern architecture, like all the building of the past, must be based upon tradition, study and absorb th spirit of the work of the past. Choose out some particular phase of it and make yourself a master of that phase; so that when you are designing a building the setting will come as readily to your pencil as your native language comes to your lips when there is occasion for speech.

The buildings designed by men out of the fulness of their knowledge are the buildings which give the highest pleasure and which will live by reason of their unconscious originality.

While we are on this subject of design I should like to ask you to avoid the sweeping condemnation of work by other men, which one sometimes hears from those who often have not taken the trouble thoroughly to study the condemned design, much less the conditions under which it was produced.

The words of Bishop Creighton with regard to morals are applicable also to the kindred quality of design. "Very frequently," he said, "the bad people are not so bad as the good people think they are, and sometimes the good people are not so good as they think themselves to be."

One warning let me give you from practical experience, a warning especially necessary to those who have to work for a public who love cheapness for its own sake. Do not try and make your buildings too cheap. As a great architect of the last century used to say, "People soon forget the expense of building, but bad work is always with them, and cheap work is nearly always bad."

And though you may have little in a city like Leeds, with the exception of our noble Town Hall, to stimulate your imagination, still there are whole streets whose buildings seem nothing but silent pleaders to the imperative need of rebuilding. Such monuments may well stimulate your minds to dreams of what might be—dreams which, I trust, for the sake of the city, of its inhabitants, and of yourselves, may in the future and in a less smoke-laden atmosphere materialise into substantial structures of stone or brick—or ferro-concrete.

MINUTES. III.

At an extra General Meeting (Ordinary), held Monday, 28th November 1910, at 9 P.M.—Present: Mr. Leonard Stokes, *President*, in the Chair; 40 Fellows and Associates (including 11 members of the Council), his Excellency the Italian Ambassador, and numerous other visitors, a Paper was read by Chevalier Professor C. Formilli on THE MONUMENTAL WORK OF THE COSMATI AT WESTMINSTER ABBEY, illustrated by lantern slides, by the author's paintings, and by casts from the Shrine of Edward the Confessor and the tomb of Henry III. in Westminster Abbey carried out under the direction of the author for the Italian Government.

A discussion ensued, and a vote of thanks was passed by acclamation to Professor Formilli for his Paper, and to the Italian Government for lending the casts for exhibition at the Institute.

The proceedings closed at 9.30, and the Meeting adjourned to view the exhibits.

At the Third General Meeting (Special, Business, and Ordinary) of the Session 1910-11, held Monday, 5th December 1910, at 8 P.M.—Present: Mr. Leonard Stokes, *President*, in the Chair; 55 Fellows and Associates (including 15 members of the Council), 4 Hon. Associates, 15 Licentiates, and several visitors, the Minutes of the Meeting held 21st November, having been printed in the JOURNAL, were taken as read and signed as correct.

On the motion of the President it was

RESOLVED, unanimously, that this Meeting, summoned in compliance with clause 33 of the Charter, hereby confirms the resolution passed at the General Meeting of the 21st November, that the following additional By-law be submitted for the approval of his Majesty's Privy Council—namely :

"The Royal Institute shall not make any dividend, gift, division, or bonus in money unto or between any of its members."

This concluded the special part of the Meeting.

The following candidates were elected by show of hands under By-law 10, viz. :—

As FELLOWS (7).

CUBBON : John [*A.* 1899] (Manchester).
LITTLE : John Walter [*A.* 1891] (Tonbridge).
PULLAR : Edgar John [*A.* 1901] (Rangoon).
SMITH : Frederick John Osborne [*A.* 1901].
STUCKÉ : William Henry [*A.* 1899] (Johannesburg).
WOOD : Joseph Foster [*A.* 1883] (Bristol).
YOUNG : Clyde Francis [*A.* 1900].

As ASSOCIATES (52).

ARMSTRONG : Colvin Tyler [*Special Examination*].
BEARE : Josias Crocker [*P.* 1900, *S.* 1906] (Newton Abbot).
BROCK : Alan St. Hill [*P.* 1905, *S.* 1906].
BULMER : Francis Holles [*P.* 1905, *S.* 1906].
CALDER : James Muir [*Special Examination*] (Rochdale).
CANTIN : Arthur N. [*Colonial Examination*, 1909] (New York, U.S.A.).
CATT : Alfred Edward [*P.* 1897, *S.* 1905].
CHETWOOD : Henry John [*P.* 1902, *S.* 1909].
COWPER : James Bertie Francis [*P.* 1906, *S.* 1907] (Manchester).
COX : Herbert [*P.* 1907, *S.* 1907].
DOWSWELL : Harry Royden [*Colonial Examination*] (Montreal).
ELKINGTON : Hylton Basil [*P.* 1903, *S.* 1906].
FIDDAMAN : William Alfred Masters [*P.* 1903, *S.* 1906].
GRANT : Thomas Francis Wiltshire [*P.* 1902, *S.* 1907].
GUMMER : William Henry [*Special Examination*].
GUNTON : William Henry [*P.* 1909, *S.* 1909].
HALL : Alner Wilson [*P.* 1900, *S.* 1905].
HAMPSON : Joseph Louis [*P.* 1899, *S.* 1906] (Blackburn).
HEAVEN : Frank Henry [*P.* 1907, *S.* 1908] (Glamorgan).
HENNELL : Sidney Thorn [*P.* 1900, *S.* 1904].
HILL : Samuel Woods [*P.* 1901, *S.* 1903].
HOLLINS : George, jun. [*P.* 1903, *S.* 1906] (Manchester).
HOOPER : Harold Ridley [*P.* 1905, *S.* 1907] (Ipswich).
HOYLE : Wilfred [*P.* 1904, *S.* 1907] (Gravesend).
HUDDART : Richard Melvil Fane [*Special Examination*].
JACQUES : Richard [*P.* 1904, *S.* 1907] (Harrogate).
KEIR : William Ingram [*P.* 1902, *S.* 1905].
KENNARD : John Harold [*Special Examination*].
LEIGH : Douglas Chantler [*P.* 1905, *S.* 1905] (Warrington).
LIVOCK : Stanley Gage [*P.* 1903, *S.* 1908].
LYNHAM : Arthur George [*P.* 1901, *S.* 1904] (Northampton).
MAUFE : Edward Brantwood, B.A. Oxon. [*P.* 1899, *S.* 1903].
MULREADY : Paul William [*P.* 1901, *S.* 1907].
NEWNUM : Eric George [*P.* 1907, *S.* 1908].
OLIVER : Basil [*P.* 1900, *S.* 1902].
REIS : Victor Cinatti Batallia [*S.* 1908] (Rugby).
RHODES : Thomas Herbert [*P.* 1900, *S.* 1904].
ROBSON : Bernard [*P.* 1904, *S.* 1906] (Scarborough).
ROWSE : Herbert James [*P.* 1906, *S.* 1907] (Liverpool).
SAVAGE : Hubert [*P.* 1900, *S.* 1906].
SHINER : Lawrence Alexander David [*P.* 1902, *S.* 1906].
SMITH : Hubert Niemann [*P.* 1903, *S.* 1905].
SNOW : Alan Leslie [*Special Examination*].
STUBBS : Edward Woodhouse [*P.* 1905, *S.* 1907].
SWAN : Thomas Aikman [*P.* 1902, *S.* 1908] (Edinburgh).
TOPLEY : Samuel Douglas [*Special Examination*].
TURNER : Horace George [*P.* 1901, *S.* 1908].
WALL : Roland Leslie [*P.* 1906, *S.* 1907].
WEBSTER : Frank Coutts [*P.* 1904, *S.* 1905].
WILSON : Geoffrey Cecil [*P.* 1903, *S.* 1908].
WILSON : Ralph [*P.* 1904, *S.* 1906].
WOODS : Frank [*P.* 1902, *S.* 1905] (Maidenhead).

As HON. ASSOCIATES (8).

HOGARTH : David George (Oxford).
LEVER : William Hesketh.
LUCAS : John Seymour, R.A.
PETRIE : W. M. Flinders.
SARGENT : John Singer, R.A.
SPIELMANN : Marion Harny, F.S.A.
THORNYCROFT : William Hamo, R.A.
WEAVER : Lawrence.

As HON. FELLOWS (6).

BALFOUR : The Right Hon. Arthur J., P.C., M.P.
BURNS : The Right Hon. John, M.P., President of the Local Government Board.
HARCOURT : The Right Hon. Lewis, P.C., M.P.
KITCHENER OF KHARTOUM : Field-Marshal Viscount, G.C.B., O.M., G.C.M.G.
PLYMOUTH : The Right Hon. the Earl of, P.C.
REDESDALE : The Right Hon. the Lord Redesdale of, G.C.V.O., K.C.B.

HON. CORRESPONDING MEMBER.

BURNHAM : Daniel Hudson, M.A., Ph.D., LL.D., Chairman of the American Commission of Fine Arts (Chicago, U.S.A.).

The following attending for the first time since their election were formally admitted by the President—viz. : Arthur Woodeson, *Associate* ; Frederick Charles Moscrop-Young, James Mitchell White Halley, Lionel Godfrey Pearson, Thomas Frank Hawkes, William Pinchard Delane Stebbing, Howard Leslie Baker, William Percival Mountford Wilcox, John Carrington Stockdale, Edwin Ashley Toombs, *Licentiates*.

The President having announced the presentation to the Institute by Mr. Ernest George, A.R.A., *Past President*, of two water-colour drawings from his own hand, a vote of thanks for the gift was passed to Mr. George by acclamation.

Professor Reginald Blomfield, A.R.A. [*F.*], having read, and illustrated by lantern slides, a Paper entitled PIERRE LESCOT AND JEAN GOUJON, a discussion ensued, and a vote of thanks was passed to the author by acclamation.

The proceedings closed and the Meeting separated at 10 P.M.

Competition Regulations Discussion.—Mr. A. Saxon Snell (referred to in error as *H.* Saxon Snell in the report in the last issue) points out that the remarks he is reported to have made on Clause 6 (*d*) were wrongly attributed to him, as he had left the room before this clause was discussed.

From the Fontaine des Innocents [Jean Goujon].

PIERRE LESCOT AND JEAN GOUJON.

By Professor Reginald Blomfield, A.R.A. [*F.*].

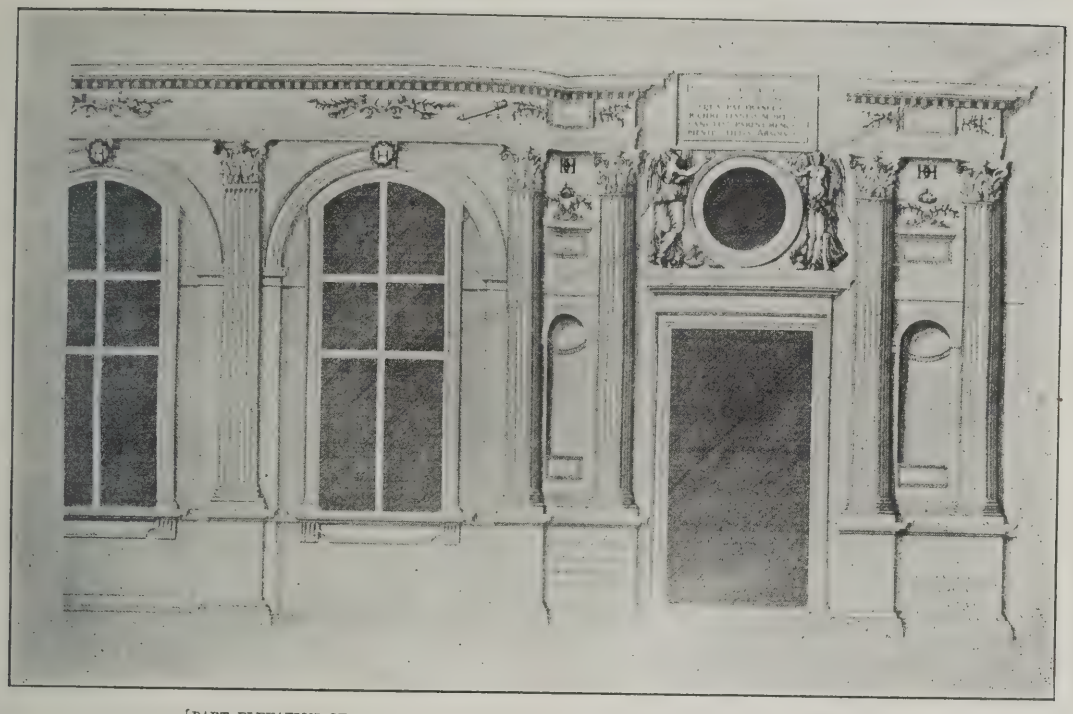
Read before the Royal Institute of British Architects, Monday, 5th December 1910.

FEW men have done so little for their reputation as Pierre Lescot, sieur de Clagny, abbé of Clermont, canon of Notre-Dame, and official architect of the Louvre. Historians have treated him with singular respect, placing him in a niche of his own as the finest French designer of the sixteenth century. A sort of legend of some super-eminent distinction of manner has grown up round his name. He is supposed to have excelled his contemporaries in refinement and architectural scholarship, and his fragment of the Louvre is held up as a masterpiece, beyond reproach and cavilling. Yet, in fact, very little is known about Lescot, and what evidence there is points, in my opinion, to a different conclusion to that which has been generally accepted.

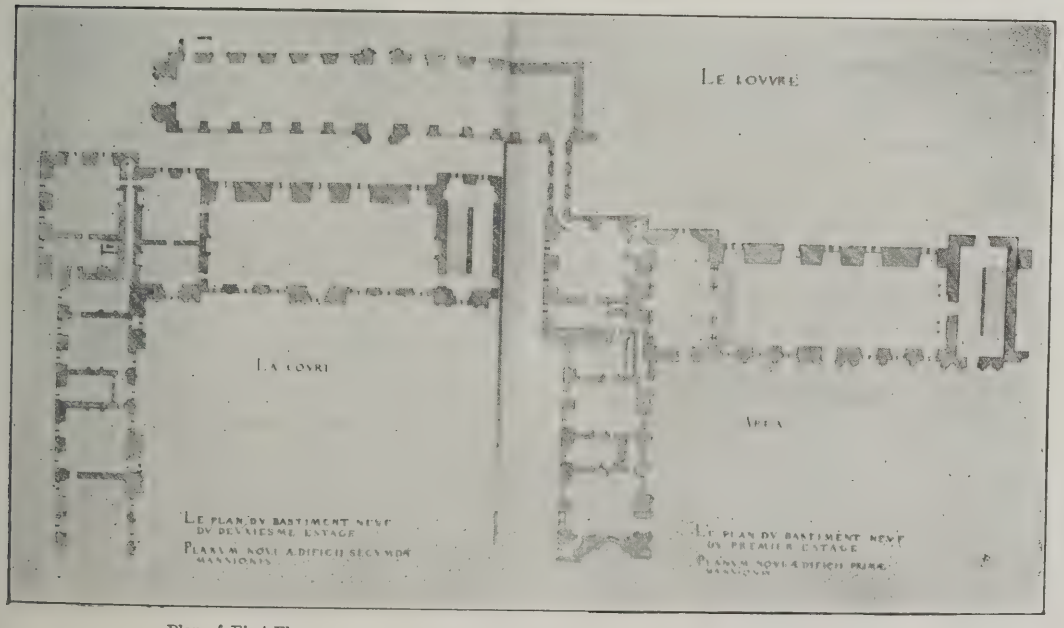
Pierre Lescot was born at Paris about 1510, and came of a legal family of some distinction. His father was Procureur-Général in the Court of Aids, and his grandfather on his mother's side was councillor and "maître des requêtes" in the King's household and second president of the Court of Aids. It was through the latter that Lescot inherited his property at Clagny. Of his early life nothing is known except what can be gathered from a poetical epistle addressed to him by Ronsard. From this most prosaic poem we learn that in his early years Lescot showed his artistic instinct by drawing at school when he ought to have been minding his books, and that at the age of twenty he added to his skill in painting the study of mathematics and architecture. Ronsard dwells with much unction on the merit and, indeed, condescension of such zeal in a man of good position and inherited means, and continues that Francis I. loved him more particularly, and that Henry II., not himself conspicuous for scholarship, honoured his learning so much that he made him his favourite table companion. The poem is chiefly valuable as indicating the position that Lescot held at Court. Ronsard, who was a good hater, lost no opportunity of humiliating De l'Orme, a strong intransigent man, and by backing Lescot with all his influence, he effectually helped his friend and injured his enemy. Beyond Ronsard's allusion to his studies in the arts and a complimentary reference to his skill as a painter in a treatise on money by Jean Bodin (1578), nothing is known of Lescot's training; there is no evidence that he went to Italy, nor did he produce any works on architecture, as did De l'Orme and Bullant, and most of the architects of the time. He first appears on the scene in charge of the Jubé or rood loft of St. Germain l'Auxerrois, which was being built

between 1540 and 1544. Payments are described in the Comptes as given to the quarryman and mason in the years 1540-41-42, and to workmen who had been working for 109 weeks on the pulpit, as it is called in the accounts. Symon le Roy and Laurence Regnauldin, "ymagiers," whom we have met before at Fontainebleau, appear (1542-44). Finally, in 1544, when the rood loft must have been nearly completed, a certain Pierre St. Quentin, master stone-cutter, appears in charge under the sieur de Clagny, and in the same year Jean Goujon, "carver of images," receives payment for a "Notre Dame de Pitié," the four Evangelists in half relief, six heads of cherubs, and other details for the work. St. Quentin is described in an entry in 1544 as having "le gouvernement des compagnons et conduicte du dict pulpitre, soubs Monseigneur de Clagny." From another entry it appears that at that date St. Quentin took over the contract from Poireau, the principal contractor. The inference to be drawn from these entries is that in 1544 a change was made in the administration of the work. A fresh contractor came in, and Lescot was placed in general charge. It will be noted that at the same time Goujon joins Le Roy and Regnauldin, and it will be found that in every work in which Lescot was engaged he never failed to associate with himself Jean Goujon. The only contemporary mention of Lescot in connection with the Jubé is the solitary entry in the accounts quoted above, which makes no reference to any design prepared by him, and in no way warrants the assumption that he did, in fact, design the screen. As a matter of fact, it was not till the eighteenth century that he was credited with the design. The Jubé was destroyed in 1745. Piganiol de la Force describes it as having been formed with three semi-circular arches, divided by piers of engaged Corinthian columns. The centre arch formed the principal entrance to the choir. In the two side arches were altars with balustrades. In the spandrels were angels with the instruments of the Passion. The four Evangelists were "sur l'appui du jubé . . . au-dessus des colonnes." He says that both in arrangement and execution it was an admirable piece of work, spoilt by over-gilding. The resemblance of this description to the motive of the design for the Louvre will be noted; indeed, it appears to have embodied the one and only architectural idea which Lescot was capable of conceiving. Lescot and Goujon were also associated in the famous "Fontaine des Innocents," which was built in 1550 at an angle formed by two streets, the Rue aux Fers and the Rue St. Denis, next the Church of the Innocents. The fountain abutted against the church, and was built as an open loggia with two arches at the sides and one at the end. It was taken down in 1785, and rebuilt more or less in its present form, as a detached square pavilion, with a new plinth and additional sculpture, in a manner which gives an entirely false impression of the original design. The engraving by Mariette, published at the end of the seventeenth century, shows the arches as flanked by pairs of Corinthian pilasters on a lofty plinth with balustrades between, and above the entablature a low attic story. The Naiads came between the pilasters, and the panels were below the balustrades of the arches and in the attic story above them. When the design was first attributed to Lescot I do not know. Up to the middle of the eighteenth century, at any rate, it was attributed to Goujon only. Daviler, an extremely competent authority, who edited Jombert's edition of the works of Anthoine Lepautre, issued early in the eighteenth century, specifically assigns its design to Jean Goujon, "architecte et sculpteur de Henri II.," and makes no mention of Lescot.

Meanwhile, Lescot had been called in for the rebuilding of the Louvre. In the reign of Francis I. the Louvre was still an awkward mediæval castle, consisting of a rectangular enclosure, with circular towers engaged at the angles and on the sides. The inner court measured about 165 feet by 145. At one end of it a huge detached donjon tower, 49 feet in diameter and 96 feet high to the springing of the roof, towered above the buildings. Such an arrangement Francis found impossible, and in 1527 he had the donjon taken down, not without some murmurings in Paris. Nothing further was done for the present, the King was



[PART ELEVATION OF THE LOUVRE, FROM DRAWING BY DU CERCEAU (BRITISH MUSEUM).



Plan of First Floor. Plan of Ground Floor.

PLAN OF THE LOUVRE BY LESCOT, FROM DRAWING BY DU CERCEAU (BRITISH MUSEUM).

busy at Fontainebleau, at Chambord, and the Château de Madrid, and had no leisure for the Louvre; but in the last year of his life his thoughts went back to his capital, and in April or August Lescot, as the best known man at the Court, was appointed architect of the new buildings at the Louvre and the royal buildings in Paris, with full power to conclude all contracts and arrange for the execution of the works. The patent refers to "un grand corps d'hostel au lieu où est à présent la grande salle, dont nous avons fait faire les desseins et ordonnances par vous." Here, at any rate, Lescot is referred to as having made the designs and as having "bonne expérience en fait d'architecture et grande diligence," and as having been fully acquainted by the King with his intentions in regard to the new buildings. The patent dwells particularly on this latter point of Lescot's intimate knowledge of the King's wishes; for Francis, up to the very end, meant to be his own architect, and all he wanted was some supple and intelligent servant to put his ideas into shape and to act as building policeman. Twenty-five years before Florimond de Champeverne, valet-de-chambre, would have been intrusted with the task, and, in view of Francis' methods of building, the evidence of the patent as to Lescot's capacity as an architect is not quite so conclusive as might appear.

Francis died in 1547, and one of the first steps of Henry II. was to confirm Lescot in his appointment, to carry on the work in accordance with the design and specification made for the late King. Lescot started the work immediately after Easter 1547; but in 1549 a change of plan was decided on. Lescot was commissioned to prepare a new design and specification and to pull down so much of the work already done as was necessary to carry it out. Meanwhile, Lescot had received no payment, and it is not till 1550 that a salary of 100 livres a month is assigned him, the usual salary of first-rate artists at the Court. Guillaume Guillain and Pierre St. Quentin were the master-masons (Lescot was faithful to his friends), Scibec of Carpi was brought from Fontainebleau to act as master-joiner, and Jean Goujon was there in 1555, "sculptor in stone" to the King. Further payments occur in 1557 and 1558. In 1559 Henry II. died, and Lescot was again confirmed in his appointment by the young King, Francis II., and after his brief reign by his successor, Charles IX., in 1561.

In this year Primaticcio managed to divert to Fontainebleau 6000 livres from the grant of 24,000 livres made for the Louvre (Comptes, ii. 40). The Court was undermined with intrigues, which were not confined to politics, but affected every relation of life. For year after year Catherine de Médicis pursued her barren and unprofitable policy of equipoise, setting back one year the men she had advanced the year before. The high ideals and enthusiasms of finer spirits wasted under this galling system of check and countercheck. De l'Orme died a disappointed man, and the disappearance of Goujon, soon after Catherine had got firm hold of the reins, is ominous of the wastage of good men which resulted from her disastrous system of intrigue.

Lescot's design is believed to have provided for the entire rebuilding of the rectangular court of the mediæval Louvre. The work was begun on the west side, facing towards the Tuileries, and was carried towards the river southwards from the present entrance, returning eastward along the river front in the direction of St. Germain l'Auxerrois and Notre-Dame. The staircase near the entrance with stone coffered vault, now the approach to the picture-galleries, is probably all that remains of the work done in the reign of Francis I., the rest having been pulled down to make way for the revised plans made for Henry II. Under that King the part to the south of this staircase was built, containing the famous Salle des Caryatides and the Tribunal on the ground floor, up to and including the pavilions at the south-west angle. An entry occurs in 1558 (Comptes, i. 356) of payment to Etienne Cramoy, sculptor, for figures and enrichments to the ceiling of the King's Chamber and antechamber, the former being on the first floor of the south-west pavilion (see Berty's plan, i. 229). It appears that by 1565 the south or river façade was well advanced. In that year there is an

CARYATIDES IN THE LOUVRE [JEAN GOUJON].
(From *La Sculpture Française*, by Louis Gonse.)

important entry of payments to Etienne Camoy, or Cramoy, and Martin Le Fort, sculptors, for having carved certain festoons in stone round marble ovals between the columns in the second story, and for having carved below and at the sides of the three windows of the upper story trophies of arms, "corselets, toraces, tarques, parvois exprès, dagues, arques, carquoys, et autres sortes d'armes antiques," also for having carved in marble tablets H's with an imperial crown enriched with branches of bay; "all these works being in the part now being built for the lodgment of the Queen on the river side." When Perrault made his additions to the south side of the Louvre these disappeared. Considerable sums were spent on the building in 1568. Lescot received his salary of 1200 livres for that year, but after that no further mention of him occurs in the "Comptes," and nothing further is known of his work at the Louvre between that date and his death ten years later. Though he was not disturbed in his charge of the building, his work was probably limited to the superintendence of the south wing; and the curious thing is that when the little gallery was built at the south-west angle, and the great gallery crossing from the Tuileries along the river front to join the Louvre, Lescot does not appear to have been consulted, and the work was placed in other hands. It almost looks as if in his latter days Lescot had lost the source of his inspiration, and was not prepared or invited to undertake further design.

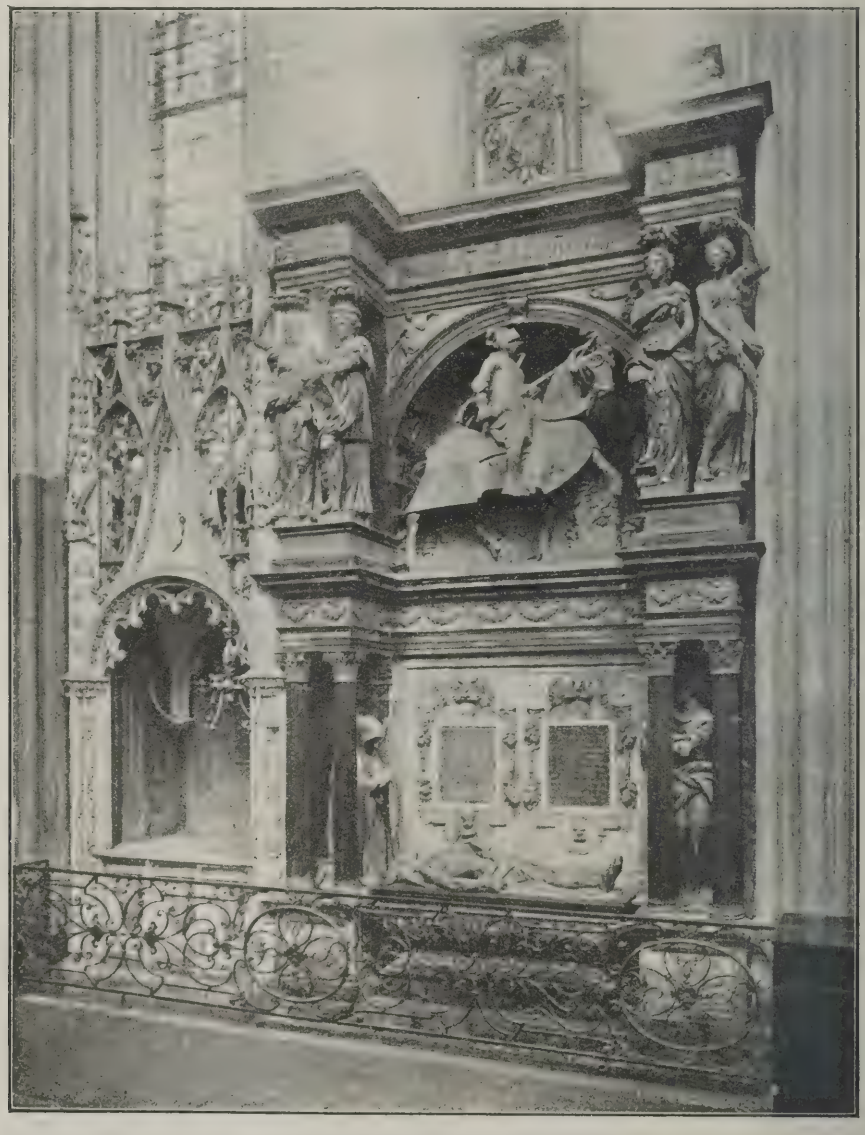
Palustre laid it down as almost certain that Lescot designed the Chapel of the Valois. This building was one of Catherine de Médicis' fantastic schemes that was never realised. She conceived the idea of a vast memorial chapel to hold the tombs of the later Valois, and plans were prepared of a circular building, 100 feet in external diameter, with six chapels opening out of the circular centre. On the outside was a Doric order, surmounted by an Ionic order with a balustrade. Above the second story rose a third, set back from the balustrade and carrying a dome and lantern. The building, which was begun in 1560, stood in the Cemetery of St. Denis, just north of the church, and the tomb of Henry II., now at St. Denis, was prepared for it. The work was carried on by fits and starts. Lescot is said by Palustre to have superintended it till 1570, when he was superseded by Bullant. Nothing was done between 1572-82, when Baptiste Androuet du Cerceau was appointed architect, and he carried it up to the terrace above the second order. There the work appears to have stopped, and it was pulled down in 1719 as the cheapest way of finishing up the business. Various drawings of it were published in the seventeenth century, and it is on the evidence of these, and some resemblance to the elevation of the Louvre, that Palustre attributed the design to Lescot. It might, however, with much more reason, be attributed to De l'Orme, on account of some resemblance in plan to the private Chapel of Anet. As a matter of fact, Primaticcio was in charge of the tombs of the Kings and Queens of France (see Comptes ii. 55, 70, 106, 118, 128), and Lescot is never mentioned in connection with them. The probability is that De l'Orme made the design for the chapel, but was superseded by Primaticcio in the execution of the work after De l'Orme was dismissed from his post of surveyor-general. Bullant did not succeed Lescot. A certain De Retz succeeded Primaticcio on the death of the latter in 1570, and Bullant succeeded De Retz in 1572. The claim of Lescot must, in any case, be dismissed.

The Hôtel Carnavalet has been attributed to him, but probably the only ground for this suggestion is that Jean Goujon undoubtedly executed some of the sculpture here. The Louvre and the Jubé of St. Germain are the only works with which Lescot is known, on authentic evidence, to have been connected. His connection with the Jubé was of the slightest, as I have already shown. For the Louvre designs were undoubtedly prepared, which were officially treated as by Lescot, and which continued in his possession till his death. These designs were handed on to Baptiste Androuet du Cerceau, with all papers and documents; and though every vestige of them has since disappeared, they are said by Sauval to have been in existence in 1629.

Two questions present themselves in regard to these designs: First, what was their architectural value? Secondly, who made them?

In regard to the designs, the plan was not particularly original. It was to follow the lines of the old Louvre in general outline, and the wings were to be in single thickness; that is, there was no attempt to provide independent access to the various rooms. The merit of the interior consisted almost entirely in its consummate detail. The Hall of the Caryatides, with the Tribunal, some forty-five metres by thirteen, was a splendid room, and some very elaborate work was carried out in the King's room. The ceiling was in lime and walnut, richly gilt and coffered and carved. Above the doors were Centaurs galloping and Neptunes reining in sea-horses. Sauval says there was nothing finer to be found in France or England, Italy or Spain; though, in saying this, he overlooked a ceiling which De l'Orme had designed and carried out in wood at Fontainebleau in the same year (1558), in which the centre compartment was the sun-god, seated in a chariot drawn by two horses, surrounded by the planets, and in the other compartments Venus and Mars and the arms and devices of the King, with branches of bay and other enrichments. So far as the interior of the Louvre was concerned the merits lay chiefly in the decorations. On the exterior the design was concentrated on the façade to the Court. This was made before 1550, and was technically in advance of any Neo-Classic yet done in France in the refinement and accomplishment of its detail. So far, the nearest approach to work on this level of attainment had been De l'Orme's first design for St. Maur, the Aile de la Belle Cheminée of Fontainebleau, and the façade to the Court of Ancy-le-Franc, both of the latter most probably by Serlio. In Lescot's design there is a distinct reminiscence of the ground-floor arcades of Ancy-le-Franc. There is some ground for believing that Ancy-le-Franc was designed by Serlio, and the story that Serlio prepared a design for the Louvre which was set aside in favour of Lescot's has never been proved or disproved. Did Lescot avail himself of this rejected design? And how was it possible for a man who, so far as is known, had not been in Italy, and had certainly not studied architecture from his youth up, as De l'Orme had done, to arrive *per saltum* at this perfection of detail? At this period the tradition of Neo-Classic was not yet established in France; each man founded his manner on his personal study and observation, and it is a well-known historical fact that the masters of modern architecture have in every case only arrived at the full perfection of their manner through a series of experiments, and even failures, in the design of actual buildings. Lescot had had no such experience. His slight connection with the rood loft at St. Germain was barely enough to bring him into touch with practical architecture, and though we have Ronsard's authority for his enthusiastic interest in the art, that is a very different thing from the minute and laborious study necessary to the attainment of any mastery in architecture. For, whatever one may think of the design as a whole, there is no denying the technical perfection of its detail. On the other hand, considered as an architectural composition the façade is weak and monotonous. The three bays to the left of the entrance (Pavillon de l'Horloge) have very slight projections, and the arcades over the windows on the ground floor are too shallow for any effective shadow, so that the general effect, seen from the opposite side of the court, is flat, and the architectural features appear thin and wiry and quite overpowered by the sculpture. It is evident that the designer was more intent on sculpture than architecture, for there is no attempt to keep the two in scale and relation to each other. The niches are too small for any figure that could possibly stand up against the colossal figures on the upper story. That, perhaps, is not the fault of the original design, as these figures were carried out after Goujon had fled to Italy. The master-hand that might have kept the scale and balance of the design was no longer there, and Lescot, left to himself, was powerless to control the exuberance of inferior men. Lescot's design for the Louvre, I call it so for convenience, is very much what one would expect of an amateur whose ideas are translated into practical shape by a skilful

sculptor with an unusual knowledge of architectural detail and a keen eye for opportunities of sculpture. But it is not a great composition. It shows no sensibility to light and shade, to the possibilities of mass and outline. Considered as architecture, it is timid and commonplace, only redeemed by the perfection of its workmanship and Goujon's magnificent sculpture.



THE BRÉZÉ MONUMENT, CATHEDRAL OF ROUEN.

I have already called attention to two facts: first, that Lescot never undertook a building unless Goujon was associated with him; and, secondly, that Goujon disappeared from the scene after 1562, and that from that date forward Lescot is not credited with any designs. The inference seems to me very strong that Goujon was the designer of Lescot's buildings, and that Lescot was the influential and accomplished amateur at Court, who got the work and saw it through, and steadily drew his 1200 livres a year for the last eight-and-twenty years of his

FRIEZE FROM THE BRÉZÉ MONUMENT, CATHEDRAL OF ROUEN.
From a sketch by the author.

life. There is no direct evidence for this conclusion, but it is the only suggestion that gives an intelligible meaning to the curious facts of Lescot's history. Even De Montaiglon admitted that he knew no other example of such a remarkable collaboration as that of Lescot and Jean Goujon. We have, in English architecture of the eighteenth century, a somewhat similar example in the case of Kent and Lord Burlington, the latter the reputed architect of famous buildings which he never designed, and Kent, the accommodating artist who lived in his house and credited his designs to his lordship's happy invention.

Goujon, whose fame now rests entirely on his sculpture, was, as a matter of fact, an architect of admitted reputation and attainments, and was perfectly capable of supplying that technical knowledge, the absence of which I cannot help suspecting in Lescot. Berty remarks,

BAS-RELIEF ON ENTRANCE PORCH OF THE HÔTEL CARNAVALET, PARIS, BY PONCE OR GOUJON.

"Jean Goujon est regardé, à juste titre, comme le plus illustre sculpteur Français, et cette circonstance a fait oublier qu'il fut aussi architecte," an architect, moreover, who had worked

FROM THE FONTAINE DES INNOCENTS [JEAN GOUJON].

in the excellent school of the mason's yard. Nothing is known of his early training. He is first heard of at Rouen, where he was employed at St. Maclou and in the Cathedral (1540-42).

At St. Maclou he carried out the black marble columns supporting the organ-gallery, and parts of the famous doors at the west end. In the Cathedral he made the figure of Georges

FROM THE FONTAINE DES INNOCENTS [JEAN GOUJON].

d'Amboise the younger for the d'Amboise monument in 1541-42. This figure was destroyed, ten years later, in order that d'Amboise might figure on the tomb in his Cardinal's robes.

The Brézé monument was being put up at the same time on the opposite side of the choir, and tradition has always credited Goujon with part of this work. It is known, however, that a sculptor named Quesnel made two of the figures in the lower part of the monument, and the caryatides bearing the upper part of the entablature, fine as they are, have a certain angularity and awkwardness never found in Goujon's work. If Goujon did any work here, I incline to think it was the seated figure of Force at the top of the monument, with a bit in her mouth, the left hand resting on the hilt of a sword, the right strangling a serpent, and the wonderful frieze of the entablature.

In 1544 Goujon was in Paris working on the rood screen of St. Germain, as already described, with Simon le Roy and Laurence Regnauldin, and appears in the Comptes as "tailleur d'ymages." It must have been about this time that he, or Ponce, carved the splendid panels of lions on either side of the entrance to the Hôtel Carnavalet, and the figure with the cornucopia on the keystone. In Andot and Potier's work, published by Reveil in 1844, the figures of the four seasons on the side to the court are also attributed to Goujon, but, if De Montaiglon's account of the Hôtel Carnavalet is correct, these figures must have been executed after Goujon's death. Little of the original building remains. Blondel says it was remodelled by François Mansard in 1634, and the panels by the entrance are possibly not in their original position. The lion panels are the finest thing of their kind in existence, and Blondel says that it was on account of their surpassing merit that Mansard refrained from altering the front of Bullant's work. In Blondel's book * the panels are shown in one drawing in their present position, in another on the side to the court. Blondel also attributes to Goujon eight of the twelve figures of the Zodiac inside the court, which he says are "Chefs-d'œuvre pour la touche, l'expression et la choix des attitudes," but too big for their place. It is, however, improbable that any of these figures are by Goujon, and the lion panels are also attributed to Ponce. Blondel also mentions that his uncle François had preserved the old part of the Porte St. Antoine in order to save Goujon's figures of a River and a Naiad, "figures d'une si parfaite beauté et d'une si belle expression qu'on ne saurait trop applaudir le goût exquis de cet architecte, qui, par ce trait de prudence, nous a transmis ce chef-d'œuvre de l'art."

Goujon must also have been employed in the Château of Ecouen before 1547. In that year a translation of Vitruvius by Jean Martin was published at Paris with illustrations, and an introduction by Goujon. Martin, in his dedication to Henry II., described Goujon as "naguères architecte à Monseigneur le Connètable, et maintenant l'un des vôtres." Goujon himself, with characteristic modesty, only called himself "studieux d'architecture." In his introduction he dwells on the necessity of a knowledge of geometry and perspective for the conduct of architecture and the understanding of Vitruvius, and says it was owing to the want of this knowledge that the work of "nos maistres modernes" was "demesurée et hors de toute symétrie." Jean Martin, who was a man of the world, would not have gone to an incapable man to illustrate the first introduction of Vitruvius to French readers, and it is evident that Goujon was regarded by his contemporaries as not less distinguished in architecture than he was in sculpture. Such a man would have been invaluable to Lescot, and without injustice the details of the architecture of the Louvre and of the Fontaine des Innocents may fairly be attributed to Goujon. With De l'Orme his relations were probably the normal ones of architect and sculptor, except that, judging from the evidence, they were not particularly friendly. De l'Orme employed him at Anet, where Goujon executed the Fames in the pendentives of the dome of the Chapel, and the figures of children carrying the emblems of the Passion on the soffits of the north and south arches. But his most famous work here was the group of Diana and the Stag, which once surmounted a lofty fountain standing in the court at the back

* *Architecture Française*, ii. 148, *et seq.*

of the Chapel. The figures and upper part of the pedestal are now in the Louvre. Some idea of Goujon's extraordinary accomplishment as a sculptor can be gained from this group, even in its present irrelevant setting. And in saying this, I am not referring only to the subtle fascination of the figure, so instinct with the classical feeling for beauty, and yet so absolutely

DIANA : IN THE LOUVRE [JEAN GOUJON].
(From *La Sculpture Française*, by Louis Gonse.)

modern and even French of that period in its charm, but to what I may call its architectural quality, the adjustment of the relations between the group and the outline of the sarcophagus on which it rests. The delicate surface relief in the architectural forms in subordination to the gracious modelling of the figure, the sense of scale which controls the whole design, are matters in which great sculptors have been known to fail. But Goujon's sense of the relation of sculpture and architecture in detail was sure and unfailing, and with him it was more than instinct.

His training in architecture had doubled his equipment as a sculptor in so far as it held his art in exact equipoise, giving it a certain exquisite finesse, without running over into virtuosity, and a rhythmical harmony of composition of far higher value than a merely technical excellence of detail. De l'Orme, constitutionally and by training, was unable to realise the value of this quality. In his multitudinous writings he never acknowledged Goujon's work at Anet, and I doubt if he appreciated the possibilities of monumental sculpture. When his chance of using it came with the tomb of Francis I. he filled the panels of his plinth with hundreds of tiny little figures by Pierre Bontemps, and seems to have completely missed the lesson of Goujon's splendid breadth of treatment.

After Anet, Goujon devoted himself to the sculpture of the Louvre. He first appears in the Comptes in 1555-56 as "maistre Jean Goujon, sculpteur en pierres pour le Roy," when he receives 560 livres for works of sculpture. He appears again in 1558 still as "maistre." In 1560 he is described simply as "Jean Goujon, sculpteur." In 1561 he is again "maistre," and receives 1085 livres "pour ouvrages de son art." In September 1562 he receives payment of 716 livres for works that he has done and will do at the Louvre. After that he disappears from the accounts and from France. Legends grew up of his having been murdered in the Massacre of St. Bartholomew when at work on the Fontaine des Innocents, and almost the memory of him was lost in the early part of the last century.

M. Andot, writing before 1844, speaks of Goujon as having been forgotten in France for three centuries, which, by the way, was not the case, as Blondel mentioned him with full appreciation of his genius. Since that date the devoted care of French historians has placed Goujon on his proper pedestal, but it was not till 1884 that M. Sandonini discovered an entry in the registers of the Inquisition at Modena proving that Goujon was at Bologna in 1563, and that he died there before 1568. Some years ago I myself noted, on the south side of the Church of Saint Eufemia at Verona, a large mural monument to Count Marco di Veritate, erected in 1566. The resemblance to Goujon's manner is most striking, and I believe that this may be added to the list of his works. Primaticcio is known to have visited Bologna towards the end of 1562. It is probable, as M. Sandonini suggested, that Goujon came with him, and through Primaticcio obtained introduction to Italian patrons, for, with all his faults of aggression and self-advertisement, Primaticcio was a generous and loyal friend of artists. At Bologna, Goujon lodged with a certain Laurent Pénis, a Frenchman and wood-engraver, in the house of a widow on the Piazza of San Michele; and it appears, from the deposition of Pénis before the Inquisition in 1568, that Goujon lived here with Frenchmen of the Reformed religion till his death at some date previous to 1568. What was the cause of his leaving Paris has not yet been discovered. Goujon, who was of the Reformed religion, had already got into trouble at Etampes in 1555, when he was arrested, but let out on bail. Had he turned on Lescot, and so lost his protection? Or was it impossible for a man of his known opinions to remain in Paris?

The year 1562 had begun in a disastrous manner. On Sunday, March 1, Guise's men had put to the sword a whole congregation of Protestants at Vassy. There was a massacre of Huguenots at Sens in April; in July two hundred were killed or drowned in the river at Tours; and on July 13 all Protestants were put "hors la Loi" by decree of Parliament, and "la Chasse aux Huguenots" became an organised sport in Maine and Anjou. The Huguenots did their best in reply, sacking churches and killing the priests, wearing their vestments as cloaks, melting the church plate into money and the church bells into cannon. The wonder is that the arts could live at all in these portentous times. A namesake of Jean Goujon was hanged at Troyes as a heretic in December 1562, and it is probable that he himself had to flee from France in fear of his life. Whatever the reason, his withdrawal was an irremediable loss to French art. It is not easy, nor is it always profitable, to single out one man as super-eminent

where many are good, but one is sorely tempted to do so in the case of Goujon. De l'Orme undoubtedly did much to develop the art of architecture in France, but he leaves the impression of a certain narrowness of sympathy, and in spite of the fierceness of his temperament, of a want of fire and dæmonic force; and it is probable that the real moving spirit among those brilliant artists of the later Valois Kings was Jean Goujon, the man untainted by social and political ambition, who lived for nothing but his art. Whether he was so or not, it is certain that his flight to Italy marks the beginning of that downward course from which the arts of France did not recover for at least fifty years. Though skilful sculptors and ornamentalists were left, there was no one with his inimitable sense of style, no one to take up his untiring quest of beauty.

Goujon occupies a unique position in French art. There were clever and dexterous sculptors before and after him: Bontemps, Perret, Ponce, Cramoy, Pilon, and Prieur; but it is impossible to trace in their work the inspiration and the passion that burns in every bit of stone and marble that Goujon touched. He stood alone amidst his contemporaries as the man of ideas, and to him more than to any Frenchman of the sixteenth century belongs the credit of having stemmed the tide of ugly reaction that had all but stifled the innate genius of the French for sculpture. For the great art of the Middle Ages had almost gone under in the invasions of the Netherlands craftsmen. I do not deny the patience and ingenuity of these men, but these Flemish carvers must have had quite a different conception of beauty from what we or any other people have had, if indeed they sought for it at all. One can find beauty, varying in manner, in every other phase of art—Egyptian, Assyrian, Greek, Roman, Mediæval, Neo-Classic, but scarcely ever in the work of these Flemish Primitives, with their narrow melancholy outlook on life, their inability to rise above the minutiæ of a crude and sordid realism. The instinct to break loose from this art of the charnel house must have been irresistible to the true French spirit, but it needed for its realisation a starting-point and a man of genius. The first was given by the Humanists, the man of genius appeared in Goujon. It is a melancholy thought that his work appears at this moment to have been in vain. Within a quarter of a mile of this Institute, the finest traditions of which lie far away in classic lands, there is now being held an exhibition, notable only as showing to what depths of degradation the arts have sunk when they break with tradition and lose all sense of beauty. Just now I called the art of the Primitives the art of the charnel house; and so it is, when one thinks of the sun and sky and the beauty of Nature, but what term is bad enough for the horrible exhibition now being held in the Grafton Gallery? If it were not so childish it would be unclean and utterly abominable. Yet it has answered a purpose which its promoters never contemplated, because it has called attention to the deadly peril which underlies all modern art, that craze of self-advertising eccentricity which ends in the madhouse.

Over three hundred years ago French sculpture was wandering off the track, and what it was coming to is shown by such aberrations as the figure of Death by Ligier Richier, but its downward course was arrested by the superb sanity of Goujon. To realise what he did you must look back two hundred years to the great days of Mediæval art, when the genius of French sculpture was vital and complete. The recovery of that lost spirit was Goujon's great attainment. Consciously or unconsciously, he was to rescue sculpture from the side-track into which it had been thrust by the Burgundian school. He taught his countrymen that the function of sculpture is not didactic or literary or blood-curdling or disgusting, but solely the search for and expression of beauty. He taught them, too, the inestimable lesson that sculpture and architecture must go hand in hand, each supplementing the limitations of the other, architecture giving the right environment to sculpture, sculpture giving full utterance to that which can only be hinted at by architecture.

From the Fontaine des Innocents [Jean Goujon].

DISCUSSION OF THE FOREGOING PAPER.

Mr. Leonard Stokes, *President*, in the Chair.

Mr. E. A. RICKARDS [*F.*]: I think Professor Blomfield has deserved our thanks to an unusual degree for his most interesting Paper; because since listening to Professor Pite on one or two occasions and now to the present lecture, I can look back on a most delightful variation from our usual entertainment here. It is from these biographical studies of great artists, treated with such imagination and sympathy, that we should learn to make our own work sublime. I confess to some measure of disappointment however. Until yesterday I had no idea that Pierre Lescot was an architect at all. We have all read the delightful history of "Manon Lescaut," and I cannot help thinking that the Abbé Prevost had probably something of inspiration from the beautiful sculptures of Goujon in his conception of that delightful and wayward heroine. Anyhow, the similarity in the name suggested something more romantic than Professor Blomfield has been able to show in his researches. When I read a short description last night, on my first acquaintance with Pierre Lescot, I hoped I was going to listen to an account of an ideal partnership between architect and sculptor much as we remember between Brunelleschi and Donatello. Instead of that the architect has been severely handled and comes out a very poor second to his collaborator. I hope Professor Blomfield in his further researches will be able to find a little more to his credit. It should, I think, be conceded to him that he apparently always insisted on Goujon being associated with him; not altogether perhaps because he relied on Goujon's assistance in his own medium, but because Goujon was the greatest sculptor and artist he could lay his hands on. We may, therefore, owe very much to Lescot and his influence over Goujon's designs. With regard to what has been said about the didactic side of sculpture as applied to a building, that is a great question and I do not know that I altogether agree with the lecture. A building has a story to tell, and Goujon's work at least reflected the idealisation of the feminine of that period, a very capricious and charming personality, but also very remarkable and intellectual as we have heard in all the accounts of Diane de Poictiers. She was a great patron, and a woman of some character, as well as, in another sense, possessing none at all. I think this is what Goujon has put on record. She seems to have been an inspiration to him, for it is quite easy to recognise her in many of his works. Then, again, such a lecture as we have listened to to-night is extremely valuable from the point of view of architectural design alone. I have always wondered, for instance, how the Fontaine des Innocents had arrived, and felt sure that it was a compilation rather than a deliberate design. By the very prominence of these works they become standards of design, and it is just as well we should know how they have really been arrived at. I should like very much to say something on Professor Blomfield's last remarks, but the matter is contentious and this is hardly the time and place. I can only add that I am the last who should have been called upon to speak first on the subject of the Paper when there are here so many who are better archæologists than myself. I am very much obliged to the Professor for his lecture, he has helped me very much indeed, and I have the greatest pleasure in proposing a hearty vote of thanks to him.

Mr. F. W. POMEROY, A.R.A. [*Hon. A.*], in seconding the vote of thanks, said: I have listened with great interest to Professor Blomfield's Paper, and it is gratifying to a sculptor to find at last the architect is ready to give some credit to the sculptor. We sculptors admire Jean Goujon as being one of the first to break away from the crudities of the debased Gothic and the insipidity of the Flemish influence, and to present sculpture in its noblest form. Also as students we cannot help regarding his complete command of architecture, and the snugness and adaptability of all his designs

to the purpose as being very high examples of the sculptor's art. In these days I think it is important to point out, as Professor Blomfield has done, that the aid of the higher aims of the sculptor or the architect is a very valuable thing, especially as the tendency is rather to wallow in the mud and mire. The more that architects know of sculpture the more it will be for the advantage of sculpture and also to the advantage of architecture. I also feel that young sculptors should have a good training in architecture, and the earlier they learn their craft the better for their future success as artists.

Mr. H. HEATHCOTE STATHAM [*F.*]: I have listened with very great interest to Professor Blomfield's Paper, though I am rather surprised to find Pierre Lescot knocked on the head so much. We have always heard of him as being the architect of the first portion of the Louvre; but I think Professor Blomfield's argument really renders it very probable that he was dependent very much on Jean Goujon. But there is one point in which that portion of the Louvre seems to me to be superior to that which was added afterwards by Lemercier—that is, that I think that small attic on the top of the two other stories has on the whole a better effect in proportion than the three nearly equal stories adopted in continuing the quadrangle. There is something about the style of Jean Goujon which is quite peculiar. It has always seemed to me that it is the adoption of Greek feeling translated into French feeling; there is about it the abstract beauty of line of Greek sculpture combined with a kind of grace and elegance peculiarly French —a combination that you find in hardly any other sculpture. Jean Goujon stands quite alone in this respect. Then I should like to say with regard to those beautiful figures in the "Salle des Cariatides," that I am sure everyone must have been struck by their remarkable resemblance to the caryatid figures at the Erechtheion; and, so far as it is a resemblance, it is again Greek sculpture translated into French feeling; it is the same idea; it is the same general composition of the figure imbued with a totally new feeling. Whether Goujon really knew anything about the Erechtheion is very doubtful. I do not think it is in the least possible he had ever been to Greece, but it is possible that he may have seen drawings or casts or something like that; at all events I should say that the way in which those caryatides recall the Erechtheion work is very remarkable, and it is a point which requires some explanation. It is also a remarkable point about Goujon's career that he really began as an architect; he is first referred to as "tailleur de pierre et masson"; and it is partly no doubt in consequence of that that he understood so well how to fit his sculpture to architectural conditions. That is a lesson to the effect that, if sculpture is to be combined with architecture, it is well for the sculptor to have learned something about architecture in the first instance. If he has done so his sculpture will combine as a part of the architecture, instead of merely appearing as something extraneous fitted into an architectural frame. There are a great many points given us in this Paper which we could not follow very well in reading, but which will be very valuable when we read them in print.

Mr. W. H. WARD, M.A.Cantab. [*A.*]: I have listened with the very greatest pleasure to Professor Blomfield's most able Paper. There are just one or two remarks which I feel may be added to what he said on the subject of these two great artists. One incident of Jean Goujon's personal life which he did not mention is that in the year 1542, soon after he had come from Rouen to Paris, he was had up as a Protestant for attending a Lutheran sermon and was sentenced to be present at the execution of the preacher in his shirt as a penance. With all that Professor Blomfield said as to his artistic career I am in the fullest agreement. There is no doubt whatever that he was an architect and was regarded as such by his contemporaries. And there are certain other works, which Professor Blomfield did not mention, which possibly may have been due to his design. We know he was architect to the Constable Montmorency before the year 1547; it is also very probable that the work carried out for this nobleman in his Château of Ecouen between the years 1540 and 1547 was largely from Jean Goujon's designs; these include very possibly the screen and gateway which closed the entrance to the court and the very splendid fittings of the chapel. In the chapel the organ gallery, with its balustrade in the form of a diminutive Ionic order, is still *in situ*; but the fine panelling of the choir stalls with their inlaid work, and the beautiful white-and-black marble altar and altarpiece, have been removed to the Château Chantilly, where they are now to be seen in the chapel. He may also possibly have designed some of the dormers, which do not appear to have belonged to the original château finished in 1531. Then again he also worked at Anet; if you compare the great entrance bay there, which is now in the court of the École des Beaux-Arts in Paris, with the gateway I mentioned at Ecouen and with the Brézé tomb in the Cathedral at Rouen, you will find that the design is extremely similar; and as there is no reason to doubt the usual attribution of the design of the Brézé tomb to Goujon, it is not unreasonable to suppose that he may have had something to say in the design of these other two architectural compositions. When we turn to Professor Blomfield's treatment of Pierre Lescot I feel he has hardly given him sufficient credit as an architect, and that there are one or two things which may be said in his favour. Professor Blomfield seemed to me to unduly minimise the fact that he had been in charge of the works of the rood screen at St. Germain l'Auxerrois for three or four years before Jean Goujon came on the scene.

Professor BLOMFIELD: One year.

MR. WARD: Was he not connected with it in 1540? [PROFESSOR BLOMFIELD: No.] I beg your pardon, I had a reference which I cannot verify at the present moment which induced me to put his connection at 1540—that slightly weakens my argument. In any case he was in charge of the Louvre before Goujon came on the scene and for many years after he left it. As regards the design of St. Denis, there is no doubt whatever that Lescot did not design the Valois mausoleum. Palustre was the first to suggest it. Palustre was a very patriotic person, obsessed with the idea that anything built in France must have been by a Frenchman and could not possibly have been by an Italian. He starts with that prejudice in all his arguments, and when he is most certain in his conclusions one may be pretty sure he has least ground to go upon. Professor Blomfield has, I believe, in his essays rather an objection to Primaticcio, and is unwilling to admit that Primaticcio may have been a real architect as well as a painter and decorator. I feel that he has gone rather too far in that direction. When Henry II. died and Catherine de Médicis was determined to build him a sepulchre, she mentioned in the Patent, where she appointed Primaticcio architect-in-general of all the Royal works, that this sepulchre was to form a special part of his duties. As a matter of fact he remained in charge of the works until his death, when he was succeeded by Bullant and several other architects whom Professor Blomfield mentioned. It seems to me almost impossible that De l'Orme should have made the design for the Valois mausoleum, because the Patent that appointed Primaticcio to design it was the one that dismissed De l'Orme from the Royal service for the time being, and it is hardly conceivable that he should have consented to act as ghost for his successful rival, and not name it among the works to which he lays claim in his apologia. In fact, there does not seem any real evidence for his having had anything to do with it. It seems to me most likely after all that Primaticcio was the architect of that monument. There are two other points that seem to show that Lescot was a trained architect, and was regarded as such by his contemporaries. One perhaps not very strong in evidence, because it rests on Jean Goujon's word and he may have had an interest in flattering him. In that Introduction that Professor Blomfield mentioned, I think there—or in one of his writings—he speaks of Lescot as one of the few persons in France who had a knowledge of Vitruvian teaching before Serlio came to France, which event, if I remember right, took place in 1541, and evidently he considered, or wished people to believe that he considered, that Lescot was learned in architecture. There is nothing to prove that Lescot did not make a journey to Italy. There is no evidence that he did; but he may have done so, and he may there have gained some knowledge of the Neo-Classic movement. That is one point. The other point is that in the very last year of Lescot's life, in 1578, there was a Commission appointed to build a new bridge at Paris, the Pont Neuf, to connect the two banks with an intervening island; and this Commission got evidence from various experts amongst whom was Lescot. Lescot was asked to give his advice. I have not been able to verify the reference, because when I came to do so I found that the Council were dining in one of the Library rooms and I could not get the book. But I am quite sure that the advice which Lescot gave was of a practical nature—something to do with the construction of the bridge rather than the design. This being the case, I think that something more than Professor Blomfield seems inclined to admit is due to Lescot in the design of the Louvre. It seems to me that he may very likely have made the general design and have been influenced by Jean Goujon as regards the design of the details. Geymüller, in his very learned work in German on the French Renaissance, discusses the whole question, and he seems inclined to see a difference in treatment of detail between the bottom story and the upper story, and attributes the improvement in the delicacy of detail observable in the upper stories to the influence of Jean Goujon coming on the scene at that time. I think, then, that there may possibly really have been the delightful partnership between men of two arts which Mr. Rickards hoped to hear of. On one point I think Professor Blomfield was not quite fair to the design of the Louvre. He said that the façade of the Louvre as seen from the other side of the court did not show sufficient relief and shadow. Well, Lescot's façade was not designed to be seen from the other side of the court as we now know it; it was not till fifty years or so after his death that it was decided to make the court four times as large as he designed it. Consequently, the distance one gets back from it now is more than double what he intended. The court of the Louvre as he designed it was really a very small one, and it must be seen in the same light as a large hall, where you would be able to appreciate fine detail.

MR. F. DERWENT WOOD: Professor Blomfield's Paper might perhaps have been enlivened if he had told us of the charm of the lovely women who sat to Jean Goujon. It has always struck me as very likely that Goujon saw the fountain in Florence by Bartolomeo Amanati in the Piazza Vecchia. The types of the women on that fountain were very similar to the type he was so fond of. Goujon, I think, must have seen, too, some of the magnificent Greek or very early Renaissance panels, because he adopts in his relief the very thing which nearly every great sculptor or carver adopted in the way of edges to his reliefs, with the angle cut back so that the shadows would be well defined from a great distance. None of his detail misses the point at the distance he required

it to tell. My own feeling is that he did not evolve that straight away from his own mind; he had probably seen one or two fine examples of Greek art, especially perhaps the Parthenon frieze; for his style of relief is very similar to that, and it is for that reason that his work tells so beautifully as it does.

MR. EDWARD WARREN, F.S.A. [*F.*]: I think Professor Blomfield is to be congratulated on the choice of his subject, which is one of perennial interest to lovers of art and of France, and therefore, I hope, to everyone in this room. I was especially interested by his reference to the Hôtel Carnavalet, and I should like to ask Professor Blomfield if there is positive and authentic evidence for the attribution of the work there to Goujon. Knowing the Hôtel Carnavalet pretty well, I should have thought that possibly, with the exception of some of the smaller details, spandrils and the like, the work could hardly have been carried out by Goujon; it is so far from the standard of extreme accomplishment which one associates with his work, and, compared with the extremely refined work he did elsewhere, seems somewhat coarse and crude. What has struck me about Goujon particularly, is that he always seems to express, almost more fully than any other artist, what the French call "l'esprit gaulois," a riotous joy in his work; he revelled and rioted in beauty. He also expresses something else, that is the extraordinarily facile assimilative spirit of France. France, and Goujon, accepted the doctrine of the Renaissance, which swept like a wave over France from Italy with extraordinary rapidity, whilst poor England was left far behind, for fifty years, still groping in the dark. Goujon expresses intuitively and supremely the facility of that acceptance, the completeness of the adoption. Deliberate attempts had been made in the reign of Francis I. to Italianise French art as far as possible; great attempts, for instance, were made to Italianise Fontainebleau. Francis I. had invited and imported artists from Italy, no less men than Leonardo da Vinci, Andrea del Sarto, and Cellini. Jean Goujon must have been in contact with Italians either directly and personally, or at any rate well conversant with their work; but it is interesting to note that his designs, while giving something of the aims and spirit of Italy, are still so full of the native French feeling, the typical French vigour. His individuality is never hampered for a moment by any deliberate attempt to Italianise, by any real abeyance to Italianate conception. His art was as unique as remarkable. There is nothing contemporary in the rest of Western Europe, England, Germany, or elsewhere which can hold a candle to it. It seems strange that his influence, strong as it was, did not steal across the Channel and get to England. We were in constant communication with France at the time that his masterpieces were executed, and it is remarkable to me that only here and there in England, where one gets small pieces of Renaissance work directly attributable to French hands, is there anything in which this new spirit of French art seems to have rubbed off appreciably. I make a special appeal to Professor Blomfield to set me right as to the work at the Hôtel Carnavalet, in which I am very much interested.

THE PRESIDENT: We have listened to-night to a literary achievement the like of which is not often heard in these rooms, and we owe a great debt of gratitude to Professor Blomfield for having prepared his Paper and read it to us. I do not pretend to be able to hold the balance between the two men he has discussed; but it seems to me that it is a great advantage to sculpture and architecture to get into close touch; we might go almost a step further and say that they ought to be combined in one and the same person. Mr. Pomeroy has told us that he thought architects would benefit by a closer study of sculpture. Without desiring to retort by a *tu quoque*, one might say that the sculptor would gain very considerably by a closer study of architecture. If he comes in contact with architecture, as he must do nowadays, he cannot call in somebody else to do the architecture for him, because the sort of person he would call in is very often out of harmony with him; he has to do the work himself, and unless he is trained to do it properly, if I may say so to Mr. Pomeroy, he comes to grief in nine cases out of ten.

MR. POMEROY: I quite agree.

THE PRESIDENT: Mr. Ward seemed to hint that the Council had been a nuisance in preventing him from getting a book he wanted to consult. I hope if that happens again he will insist upon the attendant fetching the book out of the room; because when we were arranging to dine there we were told that it could not interfere with the Library, as the attendant could fetch any book that was desired. I hope, therefore, if anybody is wanting books out of that room he will kindly see that he gets them.

The vote of thanks having been formally put from the Chair was carried by acclamation.

PROFESSOR BLOMFIELD, in responding, said: I felt that it was a somewhat rash performance to come here where most of you I daresay know a good deal about the subject, and to start this somewhat difficult theme; but all I can say is, that the view I have advanced is the result of very careful study of what evidence is available. This is not the place to controvert or to meet criticisms, especially the very interesting and well-informed criticism that Mr. Ward gave; but I may say that I consider myself in a position to meet them on all points. For example, on that point of the jubé of St. Germain l'Auxerrois, Goujon and Lescot came in in the same year, 1544. That is my point: that wherever Lescot comes in Goujon comes in with him; and the conclusion I draw from that is that Lescot was an extraordinarily acute fellow; he knew that he

had got a good man in Goujon, and he got him to work with him on all occasions. With regard to Goujon's earlier work and the work in the chapel, the gateway, and the dormers at Ecouen, there is of course the early work of Charles Billard and the later work of Jean Bullant, and it is undoubted that Goujon did work there; but it is going too far to attribute some of the details that Mr. Ward mentioned to Goujon, because it is perfectly well known that Billard worked there at an earlier date, and Bullant worked there later. Mr. Ward made an excellent and a perfectly just remark on the criticisms I offered on Lescot's designs (and, by the way, I did not go headlong into this, I have the authority of Blondel behind me), that the design was prepared for a courtyard of the size of the old Louvre, which of course, as is well known, was just one-quarter the size of the present court. Therefore he is quite justified and right in saying that Lescot should hardly be criticised for a façade which was calculated for half the distance from which it is now seen. As to the Chapel of the Valois, this and many of the points on which I touched are controversial matters; but in regard to certain opinions as to Primaticcio, I must warn you against M. Dimier's work on Primaticcio. It is a most delightful and fascinating book, but the author starts with the most wrongheaded views on architecture in relation to the other arts that have ever been written on the subject. He desired to rake in everything he could for Primaticcio, and all he could show was that possibly he designed one sepulchral monument. There is no evidence to show that Primaticcio really was an architect, and I think the best opinion is that De l'Orme probably designed the Chapel of the Valois, and that after his dismissal Primaticcio superintended its erection. With regard to the Brézé Monument, that again is pretty generally admitted not to have been the work of Goujon, as I pointed out. It is more or less known to have been done by a sculptor named Quesnel, of Rouen, though Goujon may have helped in parts of it. I have given a good deal of time to the study of the monument on the spot, and I daresay Mr. Ward has too, and I think careful study shows that the figures are not the work of Goujon; they show a different conception of beauty from what Goujon had in his mind. Then Mr. Warren asked me about the Carnavalet. The only sculptures I think we can attribute to Goujon are possibly the two lions and the figure of the Cornucopia. Blondel gave him some of the figures of the signs of the Zodiac, but I am inclined to doubt it. I do not think there is any evidence that Goujon had ever had any acquaintance with Greek work. The beautiful caryatides from the Louvre that I showed were set up again by Percier and Fontaine. I do not know whether they did anything else to them beyond the tops and vases. We are all very anxious, Mr. President, for architects and sculptors to work together. It so happens that the two men I have brought before you to-night seem to me a singularly unfavourable combination of architect and sculptor. I think if the sculptor did the work he ought to have the credit of it. In any case, there is not the co-operation that we want; we want the two to work together, in real co-operation, each supplying what the other cannot in monumental work, not one man doing all the work. Mr. Rickards said he did not know much about Lescot and that something that I said was a new light to him. I felt grateful to Mr. Rickards for this, because whilst I was reading my Paper I was conscious that I was pouring out tons of facts, some of which must have been extremely dull, but which are all relevant to the argument I was putting before you; and he himself pointed out that this historical study is really important to architects, because if they do not know what these things are, and what has happened to these buildings and monuments that they admire, and how they are built up, they may be forming perfectly false impressions. I do not say that gentlemen here would do so, but students may make these mistakes.

From the Fontaine des Innocents [Jean Goujon].

CHURCH OF THE HOLY SEPULCHRE, JERUSALEM.

In Mr. Jeffery's interesting articles on the Church of the Holy Sepulchre, on page 813 of the last volume of the JOURNAL, he refers to the arches of the south transept façade as "built in a singular manner with an outer row of voussoirs cut with rounded, bevelled edges." The correct term for these is "cushion voussoirs," and the best-known examples are those of the arches of the three upper stories of the tower of the Martorana, Palermo. At the time of the Crusades the languages spoken in Sicily were Greek and Arabic, so that the master masons from that island would be eminently qualified to be of great service in the Holy Land, speaking as they did the same languages as the Syrians. The arches of the Holy Sepulchre therefore were probably built by Sicilian masons, who introduced these cushion voussoirs. Mr. Jeffery refers to these voussoirs as one of the many varieties of the "chevron" decoration so common in twelfth-century buildings. In illustration of this theory I send two sketches I made in 1866 of the gateways of the Gama-el-Zahir in Cairo, a building little known, as, though built for a mosque, it has now been converted into barracks and is therefore not open to strangers. The outer arch of one is carved with the chevron, and of the other with the cushion voussoir, perhaps the widest example known. On page 805 Mr. Jeffery calls attention to the similarity of the principal crusading monuments of the Holy Land to the domical churches of France, and states that "St. Front Perigueux, which has often been compared with the Holy Sepulchre as an example of the pointed domical style, was burnt in 1120, and its reconstruction was contemporary with the new building in Jerusalem." In the Paper I read to the Institute on St. Front [JOURNAL R.I.B.A. 1896] I pointed out, and gave reasons for assuming, that the five-domed church was not commenced till about 1150, which might be too late for the building of the Crusaders' church. There are, however, a large number of earlier domical churches dating as far back as 1013, so that it is not necessary to make St. Front the prototype. The dome of the crossing of the Church of the Holy Sepulchre is carried on pendentives, of which the voussoirs

GATEWAY OF THE GAMA-EL-ZAHIR.
From a Sketch by R. Phenè Spiers, F.S.A., in 1866.

of the great arches form part, and a similar Perigordian type is to be found in the Crusaders' church of St. Anne in Jerusalem, of which an illustration was given in this JOURNAL, 15th April 1899.

Domes carried on Perigordian pendentives exist in some of the early churches of Cyprus, and as Mr. Jeffery is the curator of the ancient monuments in that island he might be able to render a great service if he could make some research as to the date of these churches. M. Enlart, being more interested in the later Gothic work (which he claimed as being of French inspiration, if not execution), passed by these early examples as Byzantine. The construction of the pendentives, however, is not Byzantine, but similar to that of the Perigordian churches. If Mr. Jeffery can show that these churches with domes in Cyprus are earlier than the eleventh century, it would suggest that the Perigordians derived their inspiration from Cyprus. R. PHENÈ SPIERS, F.S.A. [*F.*].

REVIEWS.

HERTS HISTORICAL MONUMENTS.

An Inventory of the Historical Monuments in Hertfordshire. 4o. Lond. 1910. *Price* 11*s.* 6*d. net.* [*Wyman & Sons, Fetter Lane, E.C.*]

The first interim report of the Royal Commission on Historical Monuments in England deals with the County of Hertfordshire. A finely printed quarto volume, well illustrated with plans and photographs, it is probably the most attractive Blue-book ever issued by a Royal Commission; it is certainly the most important architectural and archæological publication of the year. The Commission was to Lord Burghclere, the Earl of Plymouth, Viscount Dillon, Lord Balcarres, Sir Henry Howorth, Sir John Horner, Messrs. Fitzgerald, Clift, Haverfield, Horniman, and our own President, Mr. Leonard Stokes.

Lord Burghclere, in a brief preface, explains the manner in which the record has been made; the reference is to all monuments of a date anterior to 1700; the report contains a general historical introduction; an illustrated inventory, with a concise account of the monuments visited under Schedule A; a list of monuments that the Commissioners have selected as especially worthy of preservation under Schedule B; a glossary of architectural, heraldic, and archæological terms; a map showing the topographical distribution of the scheduled monuments; and an index. Parishes are arranged alphabetically, with a list of the monuments in each. A perfect chronological sequence in dealing with work so dissimilar in character is well nigh impossible; the order adopted by the Commissioners is as follows:—

1. Prehistoric monuments and earthworks.
2. Roman monuments and earthworks.
3. English ecclesiastical monuments.
4. English secular monuments.
5. Unclassified monuments.

The secular class includes such earthworks as mount and bailey castles and homestead moats. To unclassified monuments are assigned undateable earthworks, unopened tumuli, &c. Each category of monuments has been under the care of separate Sub-Commissions. The descriptions of the monuments are models of concise statement: a few lines only, setting out the situation and material of the monument, its historical development, its remarkable features, its architectural interest, and, if any, its fittings mentioned in alphabetical order.

The Historical Introduction treats of the Palæolithic, Neolithic, Bronze, Late Celtic, Roman-British, Pre-Norman, and Anglo-Saxon periods. It describes the foundation of St. Albans Abbey and other early ecclesiastical religious houses and homesteads; it touches on the Wars of the Roses and the industrial disturbances of the fourteenth century; it describes later ecclesiastical and secular architecture, the dissolution of the monasteries, the foundation of schools and almshouses, and the restriction forbidding the building of cottages without assigning four acres of land to each of them by an Act of 1589, unrepealed till 1775. The Introduction concludes with an account of the condition of the monuments, a description of the British and Roman roads in the country, and a bibliography.

The erudition packed into these pages is most refreshing; such concise and scholarly statements of facts established by organised and well-directed research are worthy of the object in view—an inventory of national wealth.

The illustrations are derived from photographs taken expressly for the Commission, and were chosen as much for their educational as their æsthetic value. The descriptions of church or cottage often cause us to regret that they are so limited in number. The two great Hertfordshire monuments, St. Albans Abbey and Hatfield House, are copiously illustrated with plans and photographs. It would be well if the Commission could extend their work to ascertain those monuments of which faithful records have been made and state where these records can be seen. When preservation becomes impossible, it is a duty to record by measured drawings and photographs the characteristics of the old work; for this the co-operation of architectural societies and the guidance and encouragement of architectural students are all that is needed. There must be at the present time many careful scale plans and sectional drawings of monuments no longer existing or restored beyond all recognition which should be carefully preserved.

At the end of the Inventory is a fine map of the county showing the distribution of the monuments. The index, to assist in the co-ordination and co-relation of archæological indices generally, follows the lines laid down by the Indices Committee of the Congress of Archæological Societies.

W. CURTIS GREEN [*F.*],
Hon. Sec. Records Committee.

MONUMENTAL ARCHITECTURE.

The Liverpool Architectural Sketch Book: being the Annual of the School of Architecture of the University of Liverpool. La. 4o. Lond. 1910. *Price* 2s. 6d. *net.* ["*Architectural Review*" *Office, Caxton House, Westminster.*]

Not the least interesting part of the *Liverpool Architectural Sketch Book* is Professor Reilly's Introduction. This is much more than an ordinary Introduction; it is really a profession of faith, and as such it is clear, straightforward, and logical. To anyone who gives any serious thought to architectural education it must be clear that it is not only quite impossible but quite useless to attempt, in the short space of two or three years, to ground students even in the rudiments of all architectural styles, as well as in the practice of modern architecture. It is, therefore, necessary to confine the teaching to one phase of architectural expression. Liverpool, for reasons very clearly set forth in the Introduction, has decided that "Monumental Architecture" shall be the basis of their system of education. No doubt in the actual teaching "Monumental" has a somewhat elastic interpretation. Professor Reilly very truly says that all early teaching must be academic, and he emphasises the fact that the aim of a School of Architecture should be the training of future architects rather than of future assistants. People are too apt to look upon education as the teaching of certain things which later on can be converted into money. It should be looked upon much more in the light of the training in a gymnasium. Young athletes wield clubs, vault over horses, and swing on bars so that they may train their bodies to the highest degree of efficiency, not with a view to a future livelihood as trick riders or contortionists. In the same way, the careful measuring and study of fine buildings and exercises in academic design train the mind, the eye, and the hand. The future architect may never have to build a Campo Santo or a School of Architecture in the Greek or any other manner, but it is certain that he will approach his future—possibly much humbler problems—with a certainty of knowledge, a quick perception, and a confidence which no other system of training will give him.

Turning to the illustrations, I think Professor Reilly may fairly claim that the system followed at Liverpool does produce the results aimed at. From the more ambitious designs down to the simple cottage there is, in most of the examples, refinement, scale, proportion, and a distinct sense of style. One feels that on whatever lines these students may eventually develop, they will always be guided by definite principles applicable to all architectural expression, instead of drifting aimlessly from one caprice to another.

ERNEST NEWTON [*F.*].

9 CONDUIT STREET, LONDON, W., 24*th December* 1910.

CHRONICLE.

L.C.C. Draft Regulations for Reinforced Concrete Construction.

The Council having received a request from the London County Council to consider and report on their Draft Regulations for Reinforced Concrete Construction, formed the opinion that it would be most desirable to discuss the question of these Draft Regulations with representatives of the various bodies chiefly concerned with the subject to whom the London County Council had sent copies and requests for reports. The Council accordingly invited these bodies to join in a conference to discuss the matter, and the following representatives were appointed:—

Edwin T. Hall, *V.-P.* R.I.B.A., *Chairman* Wm. Dunn [*F.*] H. D. Searles-Wood [*F.*], *Hon. Sec.*	Royal Institute of British Architects.
F. Higgs G. B. Godson	Institute of Builders.
Thomas Holloway William King Frank May, J.P.	London Master Builders' Association.
Charles Marsh T. B. Shore	Concrete Institute.
Sir Alex. Stenning [*F.*], *Past President Surveyors' Inst.* Howard Chatfield Clarke [*F.*], F.S.I. E. B. I'Anson [*F.*], F.S.I. Percival Currey [*F.*], F.S.I.	Surveyors' Institution.
Bernard Dicksee [*A.*] Ed. Dru Drury [*F.*], F.S.I. Wilfred Hardcastle [*A.*] F. A. Perkins	District Surveyors' Association.

The conference held four meetings and discussed the Draft Regulations in detail, and certain observations were made and amendments suggested and set out in a Report which has been forwarded to the London County Council.

In forwarding this Report it was pointed out that the Report of the Joint Committee on Reinforced Concrete issued by the Royal Institute of British Architects required revision owing to the pro-

gress of knowledge and experience, and that the Reinforced Concrete Committee is again sitting to consider what alterations are desirable.

The conference was of opinion that it would be best still to use the methods of calculation given in the Report of the Royal Institute of British Architects on Reinforced Concrete, or subsequent Reports made by the same body, and not to introduce formulæ into regulations which would tend to stereotype these particular formulæ and hinder the development of new modes of construction.

New Regulations for Competitions.

The R.I.B.A. Regulations for Architectural Competitions, revised and amended in accordance with the resolutions passed by the General Body at the Meeting of the 21st November, have now been issued as an Institute Paper and the old Regulations withdrawn.

The new Regulations are as follows :—

REGULATIONS OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS FOR ARCHITECTURAL COMPETITIONS.*

It is assumed that the object of the Promoters is to obtain the best design for the purpose in view. This object may best be secured by conducting all Competitions upon the lines laid down in the following Regulations, which have been framed with a view to securing the best results to the Promoters with scrupulous fairness to the competitors.

Members of the Royal Institute of British Architects and Allied Societies do not compete excepting under conditions based on these Regulations.

The Conditions of a Competition shall contain the following Regulations (*A*) to (*F*) as essential :—

(*A*) There shall be appointed for every Competition one or more fully qualified professional Assessors, to whom the whole of the designs shall be submitted.

(*B*) No Promoter of a Competition, and no Assessor engaged upon it, nor any employee of either, shall compete, or assist a competitor, or act as Architect, or joint Architect, for the proposed work.

(*C*) Each design shall be accompanied by a declaration, signed by the competitor, or joint competitors, stating that the design is his or their own personal work, and that the drawings have been prepared under his or their own supervision. A successful competitor must be prepared to satisfy the Assessor that he is the *bona fide* author of the design he has submitted.

(*D*) The premiums shall be paid in accordance with the Assessor's award, and the author of the design placed first by the Assessor shall be employed to carry out the work, unless the Assessor shall be satisfied that there is some valid objection to such employment, in which case the author of the design placed next in order of merit shall be employed, subject to a similar condition. The award of the Assessor shall not be set aside for any other reason.

(*E*) If no instructions are given to the author of the design selected by the Assessor to proceed within twelve months from the date of the award, then he shall receive payment for his services in connection with the preparation of the Competition drawings of a sum equal to 1¼ per cent. on the amount of the estimated cost. If the work is subsequently proceeded with, the 1¼ per cent. previously paid to him shall form part of his ultimate commission.

(*F*) The selected Architect shall be paid in accordance with the Schedule of Charges sanctioned and published by the Royal Institute of British Architects.

1.—The Promoters of an intended Competition should, as their first step, appoint one or more professional Assessors, architects of established reputation, whose appointment should be published in the original advertisements and Instructions. The selection of an Assessor should be made with the greatest possible care, as the successful result of the Competition will depend very largely upon his experience and ability.

The President of the Royal Institute of British Architects is always prepared to act as honorary adviser to Promoters in their appointment of Assessors.

2.—The duties of an Assessor are as follows :—

(*a*) To confer with and advise the Promoters on their requirements and on the questions of cost and premiums to be offered.

(*b*) To draw up Instructions for the guidance of competitors and for the conduct of the Competition, incorporating the whole of the clauses of these Regulations which are applicable to the particular Competition.

Note.—It is essential in drawing up the Instructions to state definitely which of the conditions must be strictly adhered to, under penalty of disqualification from the Competition, and which of them are optional.

(*c*) To answer queries raised by competitors within a limited time during the preparation of the designs, such answers to be sent to all competitors.

(*d*) To examine all the designs submitted by competitors and to determine whether they conform to the Conditions and to exclude any which do not.

(*e*) To report to the Promoters on the designs not so excluded and to award the premiums in strict adherence to the Conditions.

3.—Competitions may be conducted in one of the following ways :—

(*a*) By advertisement, inviting architects willing to compete for the intended work to send in designs. FOR COMPETITIONS FOR PUBLIC WORKS OF GREAT ARCHITECTURAL IMPORTANCE THIS METHOD IS RECOMMENDED.

(*b*) By advertisement, inviting architects willing to compete for the intended work to send in their names by a given day, with such other information as they may think likely to advance their claims to be admitted to the Competition. From these names the Promoters, with the advice of the Assessor, shall select a limited number to compete, and each competitor thus selected shall receive a specified sum for the preparation of his design.

(*c*) By personal invitation to a limited number of selected architects to join in a Competition for the intended work. Each competitor shall receive a specified sum for the preparation of his design.

Note.—Where a deposit is required for supplying the Instructions it shall be returned on the receipt of a *bona fide* design, or if the applicant declines to compete and returns the said Instructions within a month after the receipt of replies to competitors' questions.

4.—The number, scale, and method of finishing of the required drawings shall be distinctly set forth. The drawings shall not be more in number, or to a larger scale than necessary to clearly explain the design, and such drawings shall be uniform in size, number, mode of

* The Regulations are not intended to apply to small limited private competitions.

colouring and mounting. As a general rule a scale of 16 feet to 1 inch will be found sufficient for plans, sections, and elevations, or in the case of very large buildings a smaller scale might suffice.

Unless the Assessor advises that perspective drawings are desirable, they shall not be admitted.

5.—No design shall bear any motto or distinguishing mark; but all designs shall be numbered by the Promoters in order of receipt.

6.—A design shall be excluded from a Competition—

(*a*) If sent in after the period named (accidents in transit excepted);

(*b*) If it does not give substantially the accommodation asked for;

(*c*) If it exceeds the limits of site as shown on the plan issued by the Promoters, the figured dimensions on which shall be adhered to;

(*d*) If the Assessor shall determine that its probable cost will exceed by 10 per cent. the outlay stated in the Instructions, or the estimate of the competitor, should no outlay be stated. If the Assessor be of opinion that the outlay stated in the Instructions is inadequate, he shall not be bound in the selection of a design by the amount named in such Instructions, but the question of cost shall nevertheless be a material element in the consideration of the award;

(*e*) If any of the Conditions or Instructions other than those of a suggestive character are violated;

(*f*) If a competitor shall disclose his identity or attempt to influence the decision.

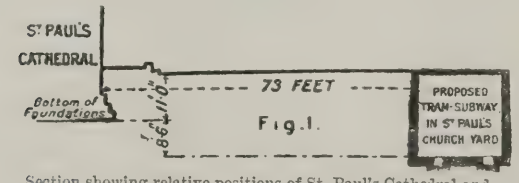
7.—All designs and reports submitted in a Competition for a public building, except any excluded under Clause 6, shall be publicly exhibited after the award has been made, which award shall be published at the time of exhibition; and all designs and reports submitted in a Competition for a private building shall be similarly exhibited to the competitors.

8.—All drawings submitted in a Competition, except those of the design selected to be carried out, shall be returned to the competitors.

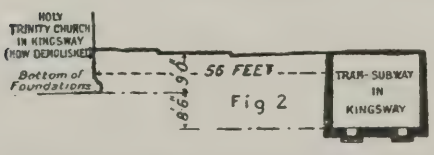
The usual R.I.B.A. Scale of Charges for Assessing Competitions, whether by jury or otherwise, is the sum of Thirty Guineas, plus one-fifth per cent. upon the estimated cost of the proposed building.

St. Paul's Cathedral.

Mr. Mervyn Macartney [*F.*], Surveyor to the Fabric of St. Paul's, in *The Times* of the 15th inst., recurs to the subject of the proposed tram-subway in St. Paul's Churchyard, and gives data illustrated by the following diagrams :—



Section showing relative positions of St. Paul's Cathedral and Proposed Tram-subway.



Section showing relative positions of Holy Trinity Church and Tram-subway in Kingsway.

Mr. Macartney recalls the fact that, owing to subsidence caused by the subway, Holy Trinity Church became dangerous and had to be taken down. Careful drawings were made of it by Mr. W. D. Caroë, Architect to the Ecclesiastical Commissioners, which showed fractures extending as far as 150 feet from the subway. The distance horizontally from St. Paul's to the proposed tram-subway is 73 feet, and the level of the rails is about 8 feet 6 inches below the foundations. The Cathedral is unquestionably the heaviest building in London with wide untied spaces, and its stability depends on an immovable foundation. Mr. Macartney noted with satisfaction that in the recent Report of the Royal Commission on London Traffic no suggestion even was made of a bridge in proximity to St. Paul's Cathedral, nor is there any proposal to link up the tramways north and south at this point.

St. Paul's Bridge.

The President of the Institute, Mr. Leonard Stokes, by invitation of the Bridge House Estates Committee, attended a meeting of the Committee at the Guildhall last Tuesday, when the Institute petition with regard to the proposed St. Paul's Bridge was under consideration.

Town Planning in Practice.

A statutory conference of property owners and representatives of the Ruislip-Northwood Urban District Council took place a few days ago with reference to the proposed Town Planning Scheme for that district. This was one of the first conferences held in connection with the Town Planning Act, and has some special interest for that reason, and also because of the able address delivered on the occasion by Mr. F. M. Elgood [*F.*], Chairman of the Town Planning Committee of the Ruislip-Northwood Council. Mr. Elgood's address consisted of a very useful exposition of the proceedings to be followed in the preparation of a scheme under the new Act.

The Housing and Town Planning Act (said Mr. Elgood) having come into operation the Council lost no time in taking the matter into consideration. A committee was appointed and communications immediately opened up with some of the large landowners in the district, asking them whether they had any views with regard to their land, recognising from the commencement, that without their assistance and co-operation very little could be done. The Council learned that the authorities of King's College, Cambridge, were already making arrangements for a plan on a comprehensive scale to develop the whole of their property in the district. Some of the Council then had interviews with the gentlemen connected with the scheme, with those that were going to develop the property, with the Local Government Board, and with others interested. It being apparent that an early development of a considerable part of the parish was intended, and that this was an obvious case in which the advantages of the new Act could be secured, the Council determined at once to

proceed with the application to the Local Government Board for authority to prepare a scheme. In the meantime, in May, the Local Government Board issued the Town Planning Procedure Regulations, which provided (*inter alia*) "for securing co-operation on the part of the local authority with the owners and other persons interested in the land proposed to be included in the scheme at every stage of the proceedings, by means of conferences, and such other means as may be provided by the Regulations." That was the keynote of all the work to be undertaken, and he advised those who were particularly interested to study these Regulations; especially he advised this to those owners who feared that their interests might be overridden, or that they might be taken by surprise and wake up one day to find the scheme cut-and-dried and established to their detriment. He could say this about the proposed scheme: It was not a municipal development scheme; it was not going to cover the district with buildings; it was not going to prevent building; it was not going to depreciate land values; it was not going to tax them; it was not going to be carried through in a hurry; and, finally, it would not be satisfactorily carried through at all without the co-operation of those who were landowners and were concerned. It was to secure that co-operation that this, the first possibly, of many conferences, was being held. There had naturally been a good deal of doubt and misapprehension as to what it would mean, and he took the earliest opportunity to state clearly what it did not mean in the hope that possibly some of the objections latent or expressed might once and for all be removed. He would give a short explanation of the Act as it applied to this particular scheme. Town planning was dealt with in Part II. of the Act which was comparatively short and simple. The opening section—54—described tersely the object and defined the scope of the Act: "A town planning scheme may be made in accordance with the provisions of this part of this Act, as respects (*a*) any land which is in course of development, or (*b*) appears likely to be used for building purposes, with the general object of securing proper sanitary conditions, amenity, and convenience in connection with the laying out and use of the land and of any neighbouring lands." Sub-section 3 of this section included a piece of land already built upon, or a piece of land not likely to be used for building purposes, if the Local Government Board were satisfied that such land should be included in any town planning scheme. There was also a very important definition in sub-section 7 of what was "land likely to be used for building purposes," which, on the face of it, seemed to need some definition. No doubt this would afford the necessary explanation to certain owners as to the reason of the lands being included in the scheme: "The expression 'land likely to be used for building purposes,'" the sub-section defined, "shall include any land likely to be used as or for the purpose of providing open spaces, roads, streets, parks, pleasure or recreation grounds, or for the purpose of executing any work upon or under the land incidental to a town planning scheme, whether in the nature of a building work or not, and the decision of the Local Government Board, whether land is likely to be used for building purposes or not, shall be final." It would be seen from the qualification expressed in the final words that the Local Government Board were the final arbiters as to whether land came within this description or not. As this section 54 was the bed-rock of a town planning scheme, and in order that owners might each for himself apply one or the other definition to his own particular land, he would recapitulate the various descriptions of land which might be the subject of a town planning scheme: (1) land in course of development; (2) land likely to be used for building purposes; (3) land likely to be used as or for the purpose of providing open spaces, roads, streets, parks, pleasure or recreation grounds; (4) land already built upon; (5) land not likely to be used for building purposes; (6) land for the purpose of executing any work upon or under the land incidental to the scheme. He thought they would agree that the Council could not fail to spread wide its net, having regard to the necessary magnitude of the scheme and its possibilities and requirements. In dealing with the clauses which give effect to this general section he would only describe such parts as were applicable to their particular scheme, which was one intended to be *prepared* by the local authority, and not one prepared by one or more owners of land and *adopted* by the local authority. The Council felt that would not be advisable, indeed hardly possible, having regard to the many landowners who would necessarily have to come under the scheme. The local authority, *i.e.* the Urban District Council, had to satisfy the Local Government Board that there was a *prima facie* case for a town planning scheme. This they had not yet done, as application to the Board could not be made until notice had been served on all owners, a map deposited, and the conference held. Here would be seen the first safeguard for owners against any undue haste. If they failed to make out a *prima facie* case, then nothing more would be heard of the scheme, and their trouble would be spent in vain. He had no such fear, however, in this case. One could hardly conceive a case where there was greater scope—indeed, necessity—for a comprehensive scheme of future development than in that extensive and largely unbuilt-upon parish, with its natural beauties, proximity to London, traversed with railways, and with five railway stations within its boundaries. It seemed most probable that before dealing with the application, the Local Government Board would hold a local inquiry, which they were enabled to do under the Act. The next step to be taken, if the Local Government Board gave authority to the Council to prepare a scheme, was to again serve notices informing owners whose land was proposed to be included in the scheme. Then would occur another opportunity for all affected to make representations or objections, which would be considered by the Council in the first instance, who will proceed to consider the development of the scheme. Amongst the more important matters with which the scheme would probably deal would be, first, a system of main roads to meet the requirements of present and future traffic. Then there would be the definition of certain other main arterial roads; variation or extinction of public rights of way; allocation of special areas for factories and businesses; provision of sites for public buildings, open spaces, recreation grounds, allotments, &c.; the preservation of places of beauty, points of view, and any buildings or spots of historic or antiquarian interest; the arrangement of houses of various classes having regard to the amenities to be provided; limitation of the number of houses per acre; definition of the lines of frontage; and suspension of certain by-laws and regulations. These and many other points would be found enumerated in the 4th and 5th schedules of the Act, and would be the subject of

general provisions prescribed by the Board which had not yet been issued. It was assumed that separate sets of general provisions adapted to areas of special character would also be prescribed under section 55.

One of the most important provisions in the scheme would be that which allowed greater elasticity in the administration of the by-laws. This would enable local authorities to secure valuable economies in regard to character and width of subsidiary and residential roads, and other development expenses, in exchange for large open spaces and gardens and width of main roads. This stage of the preparation of the scheme was without doubt the most important, and it was here that the Council would ask owners, particularly those who had any idea of developing their land, to take them into their confidence and give them their assistance, and particularly for this reason: The scheme would no doubt provide two classes of work—first, that which would be made the Council's or any other person's duty to execute; secondly, that which the scheme merely required to be executed in a particular position or in a particular way if executed at all. He would assume, therefore, that it would only be in the case where landowners contemplated early development of their property that the local authority would deal with the land at all in detail, but in any case any suggestions would be warmly welcomed by the Council, and it would be possible for them to bring together various owners so as to ensure that what was proposed might be to their mutual advantage, as well as to the benefit of the community. Even when the scheme was finally settled and approved, it was not necessarily final, and might be varied or revoked by a further scheme prepared either by the Council, or by one or more owners and adopted by the Council, and thus would be given the opportunity of filling in, in detail, the blank areas left in the original scheme. As regards the acquisition of land and compensation, the Act empowered the Council to purchase land for the purpose of the scheme by agreement or compulsorily, subject to the approval of the Local Government Board; and, in the event of a dispute as to compensation, the question had to be decided by a single arbitrator, who had to be an impartial person not in the employ of a Government department, and appointed by the Board. There were also provisions as to public inquiries being held in the case of objection. If the Local Government Board consider the provisions reasonable, no compensation was payable in respect of prescribing the space about buildings, or the limitation of the number of buildings to be erected, or their height and character, with a view to securing the amenity of the area included in the scheme. Speaking generally, it would be safe to say that no owner need fear that any of his property would be acquired or interfered with without his receiving adequate compensation. When all objections to the preparation of the scheme had been considered and dealt with, and the scheme was prepared, a draft had to be printed and a map deposited and notices again served on owners, who would be given a third opportunity to make objections or representations. It would then be the duty of the Council to hold another conference, or as many as might be necessary, to secure co-operation in promoting the scheme, and when all difficulties had been smoothed away, and it might be hoped that everyone affected had reached the highest pitch of enthusiasm and anticipation, the Council would at last have the satisfaction of submitting to the Local Government Board an application for approval of a scheme as made, when they would have to submit further particulars under no fewer than sixty-eight heads. He mentioned these facts so that no one might leave the room without realising the enormous amount of care and trouble the Local Government Board imposed upon local authorities to ensure the accurate carrying out of their Regulations. The Board might approve of the draft scheme, with or without modification. If the former, notice had again to be served on owners with copies of the draft order of the Board, and a fourth opportunity was given to make objections or representations with regard to the modifications and conditions; but this time the objections would not be made to the Council, but direct to the Local Government Board. When the final approval of the Board was given, statutory effect was given to the scheme, but before that a further notice had to be served, and then occurred the fifth opportunity of making objections. Peradventure, if one single person interested be found still to nurse a grievance, so tender was the Legislature for the liberty of the subject, that he had a last and sixth opportunity of objecting, in which case the scheme was laid before each House of Parliament for thirty days, and if either House presented an address against the scheme the whole thing would fall to the ground—subject, nevertheless, to an important proviso, viz., that the Council might begin again. He hoped he had sufficiently disclosed three things: first, that there would be no undue haste in forcing the scheme through; secondly, that owners had every opportunity of making representations; and thirdly, that without the co-operation of the owners, a comprehensive scheme was practically impossible.

American Tribute to the Town Planning Conference.

The American papers in their account of the R.I.B.A. Town Planning Conference held recently in London pay a high tribute of praise to the excellence of the organisation and the completeness of the arrangements. "It is difficult," says the *Architectural Record* for December, "to put one's finger on just what constitutes success at a convention. But it is the general testimony of those who attended the Conference in London held under the auspices of the Royal Institute of British Architects, that it was exceedingly successful. Certainly it had nothing to fear from the tests of attendance, sustained interest, and extraordinarily efficient management. Fifteen hundred delegates were present, representing all the countries of Europe and Australia, Canada and the United States, and doing this for the most part in the person of the foremost town planners of those countries. The programme, which was very rich, was precisely carried out. . . . The three Exhibitions which were a feature of the Conference were ready at the opening hour, each with its complete printed catalogue; and the eighteen excursions which were offered for the choice of delegates were carried through without apparent hitch. Each meeting, excepting only the opening session at the Guildhall, commenced exactly at the hour announced, and the fifteen minutes delay of the one exception was due to guests; no reader or speaker was suffered to ex-

ceed the announced time limit; and the discussions, though necessarily briefer than could have been wished, were well handled. . . . One very definite though local result is to be found in the educational effect of the Conference. This embraced, popularly, three lessons: the importance of town planning, its technical character, and the proper connection of architecture with it. The Chairmen of Committees united in giving the main credit for the completeness of the Conference arrangements to Mr. John W. Simpson, the Secretary-General, but it was clear to the delegates that there must have been a great deal of loyal and efficient service on the part of those very Chairmen. . . . While the Papers covered a wide range of subjects, there was a certain logical progression about their arrangement that gave unity to the programme and did much to sustain the interest. This was further enhanced by the three admirable Exhibitions." Mr. Charles Mulford Robinson, who was present at the Conference as delegate of the American Conference on City Planning, and who contributed one of the Papers on the "Cities of the Present," writing in *The Survey* (New York and Chicago), says: "The whole rich programme was carried out with the most extraordinary efficiency and perfect management. . . . One can note only the high lights in the vast, kaleidoscopic picture which the mind's eye sees as one looks back on the busy week. To a *Survey* contributor these high lights shine on the problems of social welfare more intensely than on those of architecture, traffic, or commerce. . . . It was a tribute to its breadth of view that sociology received as much attention as it did in a Conference called by architects, and in which those whose interest was primarily social were in a small minority compared to the professional architects, the engineers, and the city councillors. . . . The strongest general impression which one carried away from the Conference was of the virility, the breadth and might, of the town-planning movement; of the high aim and earnestness of purpose which characterised its exponents from many nations, and the consequent belief that for cities a new 'dream . . . is coming to birth.'"

Presentation to Mr. John Slater.

The Council of the Institute, as an expression of personal regard for their former colleague, Mr. John Slater, and of appreciation of his many years' service as a member of their body, have presented him with a pair of handsome silver loving-cups. Mr. Slater has been a Fellow of the Institute for nearly thirty years, and was for twenty-five years a member of the Council. He retired from the latter position at the end of last Session, to the regret of his colleagues on the Council and of the very large number of outside members to whom his invaluable services to the Institute in various capacities had been known and appreciated. Mr. Slater has taken part in practically all the numerous activities of the Institute since he first joined as Associate in 1879. He has served on most of its Committees: the Science Committee, the old Library Management Committee, the Light and Air Committee, the Competitions Committee, the Board of Professional Defence, the Prizes and Studentships Committee, the Finance Committee, of which he was for many years Chairman, and various special committees. His knowledge and experience have always been at the service of the Council in the settlement of questions from time to time referred to them. In a Paper on "Building Legislation," read before the Institute some years before the London County Council took the matter in hand, he advocated the codification of the various Building Acts relating to London, and the passing of a measure which should lead to better building both from a constructional and a sanitary point of view. Many of his proposals found place in the subsequent Act of 1894. For several years he has been a member of the Tribunal of Appeal under the London Building Act, holding the appointment from the Council of the Institute. Mr. Slater, with the late Mr. Arthur Cates, has had a large share in the initiation and carrying forward of the educational work of the Institute, notably the scheme of progressive examinations. He was a member of the old Board of Examiners from the year 1882 until its supersession in the current year by the present Board of Architectural Education, serving for many years as Vice-Chairman and afterwards as Chairman, and rarely missing a meeting. When the Board of Architectural Education was instituted in 1904 he acted as joint Hon. Secretary, with Professor Reginald Blomfield, A.R.A., and helped to draw up the scheme of education which has since been adopted in the principal institutions of architectural training throughout the country. Mr. Slater still retains his position on the Board, and at the last Examination was to be seen, as for so many years past, taking his turn in presiding at the *viva voce* examination of candidates. Mr. Slater represented the Institute on the Lightning Research Committee (1901–1905), and acted as its Chairman during the five years of a peculiarly difficult and laborious investigation. His linguistic attainments have often served the Institute in good stead, especially in the entertainment of foreign guests and as representative of the Institute on Congresses abroad. He is one of the Institute's best speakers, and few members are more regular in attendance at the General Meetings of the Institute.

Vasari's "Lives": a New Translation.

Next autumn the Medici Society hopes to issue the first two of ten volumes of a new edition of Vasari's *Lives*, translated by Mr. Robert W. Carden [*A.*] under the editorship of Mr. Edward Hutton and Mr. F. M. Perkins. The edition for England will be limited to 1,000 copies, price £21 net per set.

The Alexander Thomson Studentship 1911.

The Alexander Thomson Travelling Studentship, of the value of £60, which is in the gift of the Council of the Glasgow Institute of Architects, is competed for every third year, and the next competition is to be held in the forthcoming year. The competition is open to architectural students between the ages of nineteen and twenty-eight years residing in the United Kingdom. The subject for next year is a bridge with approaches spanning a river 500 feet wide, with terrace on either side 50 feet wide. The scheme generally is to be treated as an architectural and not as an engineering problem. Should the number of competitors and the quality of the work warrant it, a second prize of £20 will be given. The successful competitor is required within two years after receiving intimation that his drawings have been placed first in order of merit to go on a sketching tour for a period of three months in order to pursue his architectural studies. The competitor placed second, should this prize also be awarded, is required to spend a period of three weeks in making drawings from reproductions of classical buildings in the British Museum, London, or elsewhere ; or in study of a classical building for a like period to the satisfaction of the trustees. Full particulars may be had from Mr. C. J. Maclean, Secretary of the Glasgow Institute, 115 St. Vincent Street, Glasgow.

Cost of Living in Rome : Warning to Students.

In the interests of young students and bursary-holders who contemplate a lengthened stay in Rome, Mr. John ff. Baker-Penoyre, Secretary of the British School at Rome, gives timely warning of the great increase in the cost of living in that city. There has been, he says, a steady rise in prices during the last ten years, and the forthcoming Exhibition of 1911 makes the situation more critical to-day. Mr. Baker-Penoyre, in a communication on the subject to the Institute Council, quotes the following extract from a report in 1901 of Professor Richard Norton, Director of the American School at Rome :—

It is my duty to call the attention of your Committee to the fact that students now come to Rome with insufficient funds at their disposal. That they do so is in a measure due to their lack of experience, and to their belief that they can live in Rome more cheaply than, as a matter of fact, is possible. Tips, short excursions, payment for baggage, *permessi* for the city collections, and other small drains on their means amount, in the course of the year, to unexpectedly large sums. Several cases have come to my notice where, had friends not aided them, students would have been most unpleasantly stranded.

That Rome is not an ideally cheap city in which to live must be impressed on the holders of Fellowships quite as much as on the ordinary students. Neither $500 nor $600 is sufficient to support, in a proper manner, a hard-working student, and yet these amounts are sufficiently large to tempt eager youths to run great risks of seriously injuring their health. The School ought not to put this temptation in their way, but should regard both the holders and the officers in Rome, on whom the care of any who sicken must largely fall. This past year there was a good deal of sickness among the students, a large part of it being due to insufficient or irregular nourishment and insanitary lodgings.

THE NOVEMBER EXAMINATIONS.

The Preliminary.

The Preliminary Examination, qualifying for registration as *Probationer R.I.B.A.*, was held in London and the provincial centres mentioned below on the 14th and 15th November. Of the 125 candidates admitted, claims for exemption from sitting were allowed to the number of thirty, and the remaining ninety-five candidates were examined with the following results :—

Centre	Total Examined	Passed	Relegated
London	41	26	15
Birmingham	5	5	0
Bristol	8	4	4
Cardiff	6	4	2
Leeds	9	7	2
Manchester	22	9	13
Newcastle	4	4	0
	95	59	36

The passed candidates, with those exempted—eighty-nine all together—are as follows :—

ADDEY : Frederick Arnold; The Grange, Wragby, Wakefield.
AINSWORTH : Arthur; 365 Oldham Road, Newton Heath, Manchester.
ANDREWS : Percy Maguire; 7 Tavistock Mansions, Tavistock Place, W.C.
ARMSTEAD : Richard Burnie; The Vicarage, Eccleshill, near Bradford.
BLACKBURN : Norman Arthur; 164 Bradford Road, Dewsbury.
BONE : John Craigie; 105 Marchmont Road, Edinburgh.
BROWN : Walter James; 5 Marlborough Terrace, Park Street, Taunton.
CAIRNS : Ernest; 55 George Street, Hulme, Manchester.
CARR : Charles Watson; 24 High Street, Eastbourne.
CHEADLE : John Oscar; 11 Campden House Road, Kensington, W.
CHILD : Ernest Henry; "Trevena," Shawfield Park, Bromley, Kent.
CURRIE : John Kirkwood; U.F. Manse, Keig and Tough, Aberdeenshire.
DAVIS : Harold Sidney; 16 St. John's Wood Road, N.W., London.
DAY : Stanley Ernest; 28 Denbigh Street, South Belgravia, S.W.
DICKSEE : Harold John Hugh; 4 Platts Lane, Hampstead, N.W.
DIXON : Kenneth Alan; Old Broom Hall, Teddington, Middlesex.
DOMVILLE : Paul Compton Kellock; 116 Markland Street, Hamilton, Ontario, Canada.
DONNE : Harold Douglas; 12 Dean Street, St. Fin Barre's, Cork.
DUCKWORTH : Alfred; 341 Blackburn Road, Accrington.
EVANS : Arthur; Broniarth, North Road, Aberystwyth.

FERGUSON : Robert Wemyss; 25 Murrayfield Gardens, Edinburgh.
FIRTH : Arthur Speight; 19 Bishop Street, Mansfield.
FISHER : Harry Nettleton; 84 Hungerford Road, Camden Road, N.
FOSTER : Frank Geden; 3 The Crescent, Selby, Yorks.
GILL : Maurice Bernard; 150 Weston Park, Crouch End, N.
GLASS : James Scott, Belmont, Dalmellington, Ayrshire.
GUNDRY-WHITE : Lionel Arthur; 1 Queen Street, Norwich, Norfolk.
HAMLYN : Horace James Richard; Elm Tree House, Barlby Bank, Selby, Yorks.
HARE : John Thornton; Alresford Lodge, Hornsey, N.
HARRIS : Philip Capes; 31 Arundel Avenue, Sefton Park, Liverpool.
HART : Edmund John; 34 Cleminson Street, Salford, Manchester.
HEALD : William Lyster; 51 Norbury Crescent, Norbury, S.W.
HEATHER : Norman; Troidder-Rhoew, Sussex Street, Winchester, Hants.
HILL : Leonard Ebenezer; West View, Northcourt Avenue, Reading.
HINTON : Charles Allen; Ribbesford, Scotforth, Lancaster.
HOTSON : Andrew; 31 West Hill Drive, Mansfield, Notts.
HOWELLS : John Hubert; 27 Mirador Crescent, Swansea.
HUBERT : Ernest Frank; 3 Crieff Road, Wandsworth Common, S.W.
IBBITSON : William Beveridge; 7 Tunstall Terrace W., Sunderland.
JONES : Tom Neville Wynne; 17 Woodlands Terrace, Swansea, South Wales.
KAMINSKI : Henry Gordon; The Dene, Hainton Avenue, Grimsby.
KAY : Mitchell Crighton; 4 Renny Place, Broughty Ferry, N.B.
KEYTE : Joseph Rushbrooke; "Murcott," Chestnut Road, Moseley, Birmingham.
KNOWLES : Joseph William; 8 Pembroke Street, Middlesbrough, Yorks.
LAKSHMINARASAPPA : Srinivasa Ras Harti; 15 Sinclair Gardens, West Kensington.
LEDBROOK : Hugh Stanley; Wilton House, Kenilworth, Warwickshire.
LUYKEN : Heinrich Martin; 23 Arcadian Gardens, Wood Green, N.
LYON : Reginald Anthony; 17 Pittville Villas, Cheltenham.
McKAY : John Ross; 12 East Mayfield, Edinburgh.
MAXWELL-LAWFORD : Elliott; c/o T. E. Lidiard James, Esq., 27 Chancery Lane, W.C.
MOSS : Vincent Newton; "Tyndale," Tyndale Park, Herne Bay, Kent.
NORRIS : William George; 5 Dartmouth Park Hill, Kentish Town, N.W.
ORCHARD : Thomas Charles; Town Hall, Hemel Hempstead.
ORR : Leonard Walpole; c/o Public Works Department, Auckland, New Zealand.
OVERY : Clement Frost; Pride Hill, Shrewsbury.
PALMER : Roger Liddesdale; Roundhay Vicarage, near Leeds, Yorkshire.
PARRY-JONES : David Reginald; Park House, Newtown, North Wales.
PEARCE : Oswald Duncan; St. Anne's Rectory, Lewes.
PICK : Stanley George; Castle Hotel, Norwich.
PORTSMOUTH : Oliver Spencer; 7 Richmond Villas, Swansea.
PRESTON : William Carter; The Fold, Far Sawrey, Windermere.
PROBERT : James Melvyn; 11 Clifton Place, Newport, Mon.
RICHARDSON : Robert Harold; Clarence House, Clarence Road, Wood Green, N.
ROBB : William Alexander; 95 West Graham Street, Glasgow.
ROBERTS : Varteg Sutton; 20 Gool Street, Carnarvon, North Wales.
ROBERTSON : Manning; 36 Bedford Square, W.C.
ROBINSON : Clarence; 5 Commercial Buildings, Pudsey.
SANDERSON : John Percival; 6 Airethwaite, Kendal.
SAUNDERS : Bernard Robertson; 13 Vernon Road, Edgbaston, Birmingham.
SCOTLAND : George B.; Mossgiel, Airdrie.
SMITH : Arthur George; Salisbury House, Stoke, Devonport.
SNOW : George Wilkie; 51 The Gardens, East Dulwich, S.E.
STACKHOUSE : Edwin Stanley; Woodfield, Clifton Street, Burnley.
STODDART : Robert William; 69 Greening Street, Abbey Wood, Belvedere, Kent.
STONES : John Leighton Kay; Clayton Croft, Clayton-le-Dale, near Blackburn, Lancs.
TAYLOR : Robert Henry; 43 Newbold Road, Rugby.
TEBBUTT : Henry Jemson; 2 Craven Avenue, Ealing, W.
THREADGOLD : Robert Ainslie; 107 Hall Lane, Liverpool, E.
VINDEN : Gilbert; 57 Eastern Avenue, Reading.
WARE : Percival Mitchell; 15 King's Place, Portman Square, W.
WEBB : John Adams; Burton Hill, Melton Mowbray.
WILES : Harry; 164 High Street, Jarrow-on-Tyne.
WILLIAMS : Howard; 22 Southall Road, Brynna, Llanharran, Pontyclun, Glam.
WILLIAMS : William John Vaughan; Brookfield House, Llansamlet, near Swansea.
WILLIAMSON : Fred; "Lynton House," Rushford Avenue, Levenshulme, Manchester.
WINGATE : Wilfrid H.; Belgravia House, Kingsbridge.
WOODINGTON : Alfred Paul; 36 Thrale Road, Streatham Park, S.W.
WORTHINGTON : John Hubert; Lombard Chambers, 46 Brown Street, Manchester.
YEARSLEY : Herbert Aloysius; 21 Westbourne Grove, Harpurhey, Manchester.

The Intermediate.

The Intermediate Examination, qualifying for candidature as *Student R.I.B.A.*, was held in London and the under-mentioned provincial centres on the 14th, 15th, 17th, and 18th November, when 107 candidates were examined, with the following results :—

Centre	Total Examined	Passed	Relegated
London	72	34	38
Bristol	5	1	4
Cardiff	3	1	2
Leeds	7	4	3
Manchester	18	5	13
Newcastle	2	1	1
	107	46	61

The successful candidates are as follows, their names being given in order of merit as placed by the Board of Examiners :—

[The initial *P.* = *Probationer.*]

BESSANT : John Archibald [*P.* 1905]; Tile Kiln, Bennetts End, Hemel Hempstead, Herts.
CLARKE : Leonard Harris [*P.* 1910]; 38 Dragon Parade, Harrogate.
CHISHOLM : David John [*P.* 1902]; 9 Oakley Street, Chelsea, S.W.
COLLIN : Bertie Phillipps [*P.* 1906]; 14 Downshire Hill, Hampstead, N.W.
JEPSON : Henry Norman [*P.* 1908]; 431 Bolton Road, Darwen, Lancs.
DANISON : William Robert [*P.* 1908]; Longhirst Brocks, Morpeth.
PENTELOW : Francis Howell [*P.* 1908]; 96 Newport Road, Chorlton-cum-Hardy, Manchester.
LAUSON : John Boyd [*P.* 1910]; 9 Oakley Street, Chelsea, S.W.
MOTTRAM : A. Hugh [*P.* 1908]; 17 Denning Road, Hampstead, N.W.
EATON : George Morley [*P.* 1908] : "The Summit," Burton Road, Derby.
JENKINS : William Marendaz [*P.* 1909]; 26 Curt Ucha, Port Talbot, Glam.
CASH : Herbert William [*P.* 1909]; 7 Connaught Road, Harlesden, N.W.
QUARMBY : George Frederick [*P.* 1909]; 12 Drayton Villas, Thistle Grove, South Kensington, S.W.
CAVANAGH : Edmund [*P.* 1910]; 2 Selwyn Road, Upton Manor, E.
CALVERT : Alan Cuthbert [*P.* 1901]; 1 Belgrave Villas, Upper E. Hayes, Bath.
ADAMS : Edward [*P.* 1910]; 25 Pembroke Street, Oxford.
SOMERFORD : Thomas Retford [*P.* 1909]; 59 St. James's Road, Brixton, S.W.
JONES : Walter Sydney [*P.* 1906]; "Crewkerne," 21 Kempshott Road, Streatham Common, S.W.
ROBERTSON : Alexander Winton, jun. [*P.* 1907]; Glenearse, Chalkwell Avenue, Westcliff-on-Sea, Essex.
TYTE : Gilbert George Lee [*P.* 1907]; 6 Heathcote Street, Mecklenburgh Square, W.C.
HOWKINS : Gilbert [*P.* 1906]; The Elms, Crick, near Rugby.
TALVALKER : Vasudeo Ramchaudra [*P.* 1908]; 18 Tufton Street, Westminster, S.W.
FOWELL : Joseph Charles [*P.* 1909]; 33 Old Queen Street, Westminster, S.W.
JACKMAN : Frederick [*P.* 1904]; 40 Deanville Road, Clapham, S.W.
HIGGS : Harold John [*P.* 1908]; Goring-on-Thames, Oxon.
THORPE : Alexander [*P.* 1907]; 6 Newton Road, Bayswater, W.
PEERLESS : Herbert Read [*P.* 1906]; "Burnham," Redington Road, Hampstead, N.W.
ROBINSON : Harold Graham Fector [*P.* 1907]; 12 Lawn Road, Hampstead, N.W.
BARROW : John William [*P.* 1909]; 16 Kensington Road, Morecambe, Lancs.
BENNETT : Ewyn [*P.*]; 36 Darnley Road, Gravesend, Kent.
BENWELL : Walter Richard [*P.* 1907]; 249 Portnall Road, Maida Hill, W.
BLACKWELL : Charles Christie [*P.* 1907]; 1 St. Paul's Road, Leicester.
BROWN : Murray [*P.* 1908]; 55 Southampton Row, W.C.
BRYANT : Herbert Phillips [*P.* 1907]; "Ilkley," 27 Hill Lane, Southampton.
COLERIDGE : Paul Humphrey [*P.*]; 7 Egerton Mansions, S.W.
EDWARDS : Sidney James, B.A. [*P.* 1909]; The Grange, Royston Park, Pinner.
ELSTON : James [*P.* 1908]; Station Chambers, Foundry Bridge, Norwich.
HARRISON : William Holgate [*P.* 1905]; Avenue House, Whalley, Lancashire.
JONES : William Harold [*P.* 1907]; Woodbury, 24 Sunnyside Road, Hornsey Lane, N.
KRUCKENBERG : Frederick Lawrence [*P.* 1906]; The Larches, Ilkley, Yorks.
LOWCOCK : Arnold [*P.* 1906]; Poplar House, Dronfield, near Sheffield.
LOWCOCK : Edward Kay [*P.* 1907]; Woodlands, Settle, *via* Leeds.
LUBBOCK : Humphrey Thornton [*P.*]; 30 Gledhow Gardens, S.W.
SCOTT : Eric Wilfrid Boning [*P.* 1905]; 45 Hermitage Road, Finsbury Park, N.
THOMAS : Arthur Phillip [*P.* 1906]; Glanwenny, Bridgend.
WADDINGTON : Harold Gerard [*P.* 1907]; 77 Whitegate Drive, Blackpool.

Exemptions from the Intermediate Examination.

The following Probationers, possessing the qualifications required by the regulations, have been exempted from sitting for the Intermediate Examination and have been registered as *Students R.I.B.A.* :—

HARRIS : Philip Capes; 31 Woburn Place, Russell Square, W. [Liverpool University.]
HENSHALL : Louis Sydney; "Runnymede," Stockton Heath, Warrington. [Liverpool University.]
HONEYMAN : Herbert Lewis; Minewood, Bridge of Allan, Stirlingshire. [Glasgow School of Architecture.]
LINDSAY : William; 11 Moray Place, Glasgow. [Glasgow School of Architecture.]
ROBB : William Alexander; 95 West Graham Street, Glasgow. [Glasgow School of Architecture.]
STEPHEN : Noel Shaw; Mallington, Chester. [Liverpool University.]
WILLS : Trenwith Lovering; The Buff House, Hightown, near Liverpool. [Liverpool University.]
WORTHINGTON : John Hubert; Lombard Chambers, 46 Brown Street, Manchester. [Victoria University, Manchester.]

The Final and Special.

The Final and Special Examinations were held in London from the 24th November to the 2nd December. Of the 122 candidates examined, 54 passed, and 68 were relegated in various subjects. The following are the names and addresses of the passed candidates, the † prefixed to a name signifying that the candidate entered for the Special Examination, which is designed for architects in practice and chief assistants exempted by the Council from the Preliminary and Intermediate Examinations and from submitting Testimonies of Study :—

[The initial *S.* = *Student.*]

ADAM : Alexander [*S.* 1907]; Churchill House, Paisley, N.B.
ARNOTT : Charles Dudley [*S.* 1906]; "Seacroft," The Cliffs, Gorleston-on-Sea.

BARNISH : Leonard [*S.* 1903]; 20 Mariner's Road, Blundellsands.
BESWICK : William [*S.* 1908]; Queen's Park, Chester.
BIRKETT : Stanley [*S.* 1905]; 25 Clyde Road, West Didsbury, Manchester.
BUNCE : Henry Edgar [*S.* 1908]; 28 Clapton Common, N.E.
BUTT : Charles Frederick [*S.* 1908]; 17 Chichester Street, Westbourne Square, W.
CARTER : George Ralph [*S.* 1908]; 19 Upper King Street, Leicester.
CHAUNDLER : James Hubert [*S.* 1905]; 100 East Sheen Avenue, S.W.
CLOUX : Frank Louis Whitmarsh [*S.* 1906]; 81 Burton Road, Brixton, S.W.
COATES : William Victor [*S.* 1908]; Waltham House, Grimsby.
COCKRILL : Kenneth Arthur [*S.* 1908]; Post Office Chambers, Gorleston.
†COLLINS : Alfred Francis [*Special Examination*]; "The Hope," 1 Queen's Road, Windsor.
†COOMBS : Leslie Douglas [*Special Examination*]; Bowling Street, Dunedin, New Zealand.
CRANFORD : William Harold [*S.* 1907]; "Kingscliffe," Woodberry Down, Finsbury Park, N.
DAVIS : Philip Wolf [*S.* 1907]; 9 Portman Street, W.
†DRYSDALE : George [*Special Examination*]; 5 John Street, Adelphi, Strand, W.C.
EVANS : Thomas Glynne [*S.* 1908]; 19 Rufford Road, Liverpool.
†GLANFIELD : Ernest Budge [*Special Examination*]; 20 Brook Street, Bond Street, W.
HALL : Edwin Stanley [*S.* 1907]; 54 Bedford Sq., W.C.
†HATHAWAY : Percy William [*Special Examination*]; Town Hall, Rochdale.
HETT : Leonard Keir [*S.* 1909]; 41 Denning Road, Hampstead, N.W.
HIGGINS : William Thomas [*S.* 1906]; "Hanslope," Stony Stratford, Bucks.
HODGES : Claude Vivian [*S.* 1905]; 70 Melbourne Road, Leicester.
HUGHES : Thomas Harold [*S.* 1909]; 46 Beaconsfield Place, Aberdeen, N.B.
HULBERT : Francis Seymour [*S.* 1909]; 50 Charlwood Street, S.W.
JONES : Cyril Montagu [*S.* 1906]; 55 Gower Street, W.C.
KIPPS : Percy Kingsford [*S.* 1906]; 93 Lewisham High Road, S.E.
LODGE : Thomas Arthur [*S.* 1909]; Blandford Cottage, Thames Ditton, Surrey.
LYON : Maurice [*S.* 1907]; "Home Croft," Edenbridge, Kent.
MANSFIELD : Leslie [*S.* 1908]; "Ivall," Southboro' Road, Bickley, Kent.
MARTIN : John Gray [*S.* 1906]; 249 Park Road, Oldham.
MATHESON : Kenneth William [*S.* 1904]; "Orcadia," Goulton Road, Clapton, N.E.
MATTHEWS : Bernard Frank [*S.* 1909]; Ingram House, Stockwell Road, S.W.
MOORE : Ernest Josiah Edwards [*S.* 1906]; Stafford House, Chepstow Road, Newport, Mon.
MUNT : Francis Edwin Spencer [*S.* 1906]; Linkfield House, Fontenoy Road, Balham, S.W.
†PEASCOD : Joseph [*Special Examination*]; 103 Bow Road, E.
PYWELL : William Jackson [*S.* 1907]; Lennep House, Marine Parade, Brighton, Sussex.
ROBERTSON : Norris Bathgate [*S.* 1908]; Roydfield, Uppingham Road, Leicester.
SCHOFIELD : John Frank [*S.* 1905]; Ash Lodge, 49 Bow Road, E.
SHANKS : Norman Fraser [*S.* 1907]; 565 Strelford Road, Old Trafford, Manchester.
SLATER : John Alan [*S.* 1908]; 11 St. John's Wood Park, N.W.
SMITH : Frank William [*S.* 1908]; 69 Charles Street, Newark-on-Trent.
SUTTON : Cecil Alfred Leonard [*S.* 1909]; Bromley House, Nottingham.
TANNER : Edwin John [*S.* 1909]; 18 Kensington Hall Gardens, W.
†THOMPSON : Charles William Ward [*Special Examination*]; 50 High Street, Chatham.
†TUGWELL : Sydney [*Special Examination*]; Richmond Chambers, Bournemouth.
WALKER : Marshall Eyre [*S.* 1907]; 8 The Broadway, Woking, Surrey.
WELCH : Herbert Arthur [*S.* 1907]; 1 Asmuns Hill, Garden Suburb, Hendon, N.W.
†WELLBURN : George Taylor [*Special Examination*]; 14 Theresa Terrace, Redcar, Yorks.
WHEATLEY : Joseph Horace Lyneham [*S.* 1906]; Sheet, Petersfield.
WILSON : Herbert John [*S.* 1905]; 21 Sandy Lane, Accrington.
WINCH : Arthur [*S.* 1909]; 3 Roundhay Mt., Leeds.
WRIGHT : Edward Leslie [*S.* 1906]; 16 Talbot Street, Cathedral Road, Cardiff.

The following table shows the number of failures among the relegated candidates in each subject of the Final Examination :—

I.	Design	46
II.	The Principles of Architecture	43
III.	Building Materials	9
IV.	Principles of Hygiene	27
V.	Specifications	14
VI.	Construction : *Foundations, &c.*	36
VII.	Construction : *Iron and Steel, &c.*	39

Election of Licentiates R.I.B.A.

At the Council Meeting of the 19th inst., the following candidates, having been found eligible and qualified under the Charter and By-laws, were elected Licentiates R.I.B.A., in accordance with the provisions of By-law 12 :—

ALLEN : Arthur Frank.
ASHTON : Thomas (Altrincham, Cheshire).
BAUHOF : Philip.
BAYLEY : Charles Reuben.
BENNETT : Malcolm Beresford (Brighton).
BENTLEY : George Gell (Leeds).
BISHOP : Walter Snell.
BRADSHAW : Samuel Wesley (Manchester).
BROWN : Henry Marcus (Wolverhampton).
BULLOCH : Walter Henry.
BURROWS : Frederick T. J.
CALVERT : Vere (Bradford).
CAMERON : Edwin Percy.
CARRICK : James (Ayr, N.B.).
CARTER : George.
CARYER : George Thomas
CLARK : Herbert Henry.
CLOWES : Edmund Rolls Laird.
COLDWELL : Edward William.
COLLINS : Ernest William.
DALE : Arthur (Nottingham).
DAVY : Clifton Robert (Maidenhead).
DEAKIN : George King.
DE COURCY : Nevinson William, B.A.Cantab. (Alexandria, Egypt).
DENVIL : Henry Horace Gaskell.

DWYER : Bernard Patrick.
ENGLISH : Charles William.
EVILL : Norman.
EWEN : Arthur John Clifford.
FAIRER : Walter Chapman (Bolton).
FLOWER : Victor Augustine (Singapore).
FOSS : John Henry Beart.
FREEMAN : Charles Henry.
GROTE : Arthur Lloyd.
HAMLYN : Edwin Edgar Harold (Chester).
HAYWARD : Arthur Baldwin.
HEAPS : Stanley Arthur.
HEARD : William James (Accrington).
HIGNETT : Cecil Horace (Letchworth).
HODGES : Henry Todd (Newcastle-on-Tyne).
HODGSON : Arthur Nicholas Whitfield (Windermere).
HORSBURGH : William Peter (Liverpool).
HUNTER : Joseph Percy (Sheffield).
IRELAND : John Carmichael.
LORD : George Wilfred (Port Sudan).
LUNN : Edward Langridge (Guildford).
MILLER : George Frederick (Hastings).
OGLESBY : Robert Parr.
OVERY : Charles Rand (Principal Government Architect, East Africa Protectorate).
PAUL : William Edgar (Bristol).
PRICE : Francis Henry (Taunton).
PRICE : Frederic Graham.
READ : Norman (Leicester).
RICHLEY : Norman (Durham).
RIGBY : Alfred (Manchester).
ROSS : William Arthur (Bradford).
RUCHWALDY : John Samuel (Singapore).
SAMSON : Harold Overall (Taunton).
SCOTT : Gilbert Telfer (Inverkeithing, Scotland).
SHAW : Malcolm Graham (Kendal).
SHEPPARD : John Mortimer (Cambridge).
SHORT : Charles Frederick.
SPRANKLING : Ernest (Taunton).
STOTT : James Edward (Manchester).
STUART : John (Wakefield).
SUGDEN : William Arthur (Keighley).
SUGDEN : William Hampden (Keighley).
SUTTON : Charles Ernest Burgett (Warrington).
VAUX : Noble (Sunderland).
WALDER : Horace Hampton.
WALL : Tom (Ripon).
WEIR : William May.
WEST : A. William.
WHESTON : Wray Wilkins (Hongkong, China).
WILLIAMSON : John (Birkenhead).
WINSTANLEY : Albert (St. Anne's-on-Sea).
YORKE : Harry Joseph.

Artistic Hoardings.

The conditions attaching to the offer made by Mr. W. H. Lever, of Port Sunlight, of prizes of £50, £25, £15, and £10 for the best hoardings constructed from an architectural point of view have been formulated. The hoarding must have a clear posting space of not more than 10 feet in height, and not less than 50 feet in length, the whole cost not to exceed 4*s.* per square yard. Drawings to the scale of 8 feet to the inch must be submitted with details on a scale of 2 feet to an inch together with photographs of the hoarding dressed with posters. Competitors desiring further information must apply to the Secretary, United Bill Posters' Association, 4 and 5 Warwick Court, Holborn. Drawings have to be sent in by 1st June next.

MINUTES. IV.

At the Fourth General Meeting (Business) of the Session 1910-11, held Monday, 19th December 1910, at 8 p.m., Mr. Alfred W. S. Cross, *Vice-President*, in the Chair, the names of thirteen Fellows (including ten members of the Council), ten Associates, and four Licentiates being entered in the attendance book, the Minutes of the Meeting held 5th December 1910, having been already published in the JOURNAL, were taken as read and signed as correct.

The Hon. Secretary announced the decease of Charles Hodgson Fowler, architect to the Dean and Chapter of Durham, elected *Associate* 1863, *Fellow* 1873, and having referred to his distinction as an ecclesiologist and to the high character of his architectural work, it was resolved, upon the motion of the Hon. Secretary, that a vote of sympathy and condolence be passed to the relatives of the late Fellow.

The Hon. Secretary having announced a number of presentations to the Library, a cordial vote of thanks was passed to the donors.

The following gentlemen, attending for the first time since their election, were formally admitted by the Chairman, viz :—Hubert Savage, *Associate*; Hugo Ritchie Bird and Walter Dewes, *Licentiates*.

The Secretary announced that by a resolution of the Council under By-law 22 the following gentlemen had ceased to be members of the Royal Institute, viz.—Frederick Bennett Smith, of the class of Fellows, and Herbert Story, of the class of Associates.

The Secretary announced the results of the Preliminary, Intermediate, Final, and Special Examinations held by the Institute in the month of November.

The Chairman, in accordance with notice, brought forward the following motion on behalf of the Council :—"That the Declaration to be signed by Licentiates shall be amended as follows : Insert the words 'or Architect and Surveyor' in the fifth line (KALENDAR, p. 62) so as to read, 'that I am not engaged in any other avocation than that of an Architect, *or Architect and Surveyor*.'"

The Resolution was formally moved by the Chairman, and seconded by Mr. Maurice B. Adams [*F.*]

Mr. George Hubbard, F.S.A. [*F.*], seconded by Mr. Charles Heathcote [*F.*], moved as an amendment that the word "engineer" be introduced, suggesting the reading, "architect, surveyor, and engineer."

The Hon. Secretary pointing out that the necessary engineering work in the construction of a building was included in the ordinary avocation of an architect, Mr. Hubbard expressed himself satisfied and withdrew his amendment.

The original Resolution was then put from the Chair and carried unanimously.

The Chairman further moved that the following be inserted as the penultimate sentence of the Licentiates' Declaration :—"And I hereby agree that I will not use after my name any other affix with reference to the Royal Institute than 'Licentiate R.I.B.A.'"

The motion was seconded and strongly supported by Mr. Maurice B. Adams [*F.*], and after discussion was carried by a large majority.

Finally, on the motion of Mr. Albert W. Moore [*F.*], seconded by Mr. Maurice B. Adams [*F.*], it was resolved that the Council be asked to send a circular letter to all Licentiates drawing their attention to the alterations made in the Declaration.

The proceedings closed and the meeting separated at 9.30.

ALLIED SOCIETIES.

DETAILS OF PRACTICE AND TREATMENT OF MATERIALS.

By A. S. Dixon, M.A.Oxon. [*F.*].

Presidential Address to the Birmingham Architectural Association.

Gentlemen,—You listened last year with very kind indulgence to a number of observations of a rather general kind which I ventured to inflict on you. When I was writing these down—on board a steamship in the Baltic—an elderly engineer asked me what I was doing. "Writing a presidential address," I said. "Well," he answered, "I hope you are not inflicting on your Society the usual useless rubbish about the history of Architecture which anyone can read better for himself in a book. Tell them your own experiences; that is the only thing a president ought to allow himself to do." It had not occurred to me that my limited experiences would be sufficiently interesting. But being at great loss for a subject I asked our Secretary, Mr. Simister, the other day, what in the world I should talk about, and he gave me very nearly the same answer—"Tell us how you do your own work."

I start to do so with great diffidence, for in all cases I shall be talking of things of which many of you know more than I, and either I shall be saying things which are known to everyone already—which will be a waste of your time—or things on which I am unfortunate to differ from others, and am therefore in great danger of being mistaken.

However, I will try and do as I am told and talk about details of practice and treatment of materials, and if I do not succeed in saying anything very useful or interesting, at any rate I shall be following a course which I should very much like others to follow, and which, if they would do so, I am very sure would be useful and interesting to myself.

First, let us talk about brickwork, and specially about the bricks we have to deal with in Birmingham. We have two kinds: the hard blue, brindled and red bricks from Staffordshire or the West, and the light red or pink comparatively soft bricks from the Warwickshire side or the East. Both are machine-made—that is wire-cut. I say nothing about the machine-pressed bricks because, although they are still sometimes used, I suppose that both on utilitarian and æsthetic grounds they are seldom now used by architects. Both kinds can be got delivered in Birmingham for prices varying from 20*s.* to 30*s.*, and if we want a hand-made brick we have to go further and pay more. From the point of view of strength no bricks in the world are better than Black Country bricks, as we call those made on the Staffordshire side. I must be very careful in what I say of Birmingham bricks, as we call those which come from the East side. They are certainly softer and under some circumstances they are liable to disintegration, but we prefer them for the inside half or two-thirds of our walls. Which is the most weather-proof I am not sure. In considering this question I think we are inclined to confuse what I would call porosity or permeability and absorptiveness. Both kinds have a certain amount of permeability or porosity; the Birmingham bricks are more absorptive, and for this very reason I think they are less likely to let water pass right through them. So it is generally thought best to put Black Country bricks on the outside of a wall because they never decay, and Birmingham bricks inside because they arrest the passage of damp.

Then comes the question of bond. The text-books tell us we must either use English bond (or alternate courses of stretchers and headers) or Flemish bond (alternate headers and stretchers in each course). I venture—not without some diffidence and willingness to be corrected—to rebel against this tyranny of bonds both on constructive and æsthetic grounds. English bond is very ugly, and Flemish bond, though prettier, is too mechanically regular, and on constructive grounds I think both have an excess of headers. To prevent a wall from splitting a porportion of one header to three stretchers is ample; to avoid cracking it is necessary with our short bricks to have the largest possible proportion of stretchers. All these points are best met by a bond of one header to three or four stretchers in each course, or one course of alternate headers and stretchers, or even of one header and two stretchers, with two or three courses of stretchers, and if the bond is varied to meet special difficulties all the better.

The normal shape of bricks in this district is the worst that has ever been devised in any time or any country. Our bricks are normally made 9 inches by $4\frac{1}{2}$ inches by $3\frac{1}{4}$ inches. I have no doubt these proportions were arrived at on strictly commercial grounds. It is no doubt the largest size which can be conveniently handled with one hand, but it is constructively a bad shape. A wall constructed of such bricks is liable to cracks of a high vertical angle—I mean of an angle with the ground too near to a vertical line. The angle of possible cracks would be lower—I mean more nearly horizontal—if the bricks were either thinner or longer, and it is interesting to note that in either case the æsthetic effect would be much better. Our short thick bricks are the ugliest in the world, and that is the cause of no little depression of spirits when we come back from our journeys no matter to what part of the world we have been. In the South of Europe, in Italy certainly, and in Spain also I believe, the normal shape of bricks is 12 inches by 12 inches by $1\frac{1}{2}$ inches thick. It is a bad shape from a commercial point of view, for it takes both hands to lift and lay such a brick, but constructively and æsthetically it seems to me to be very good. In Northern Germany the bricks used in mediæval times seem to have varied to a certain extent, but to have been normally about 12 inches by 5 inches by 3 inches or $3\frac{1}{2}$ inches thick. These bricks must also have been difficult to handle, but they give a good bond and look fairly well. In Belgium and Holland 8 inches by $3\frac{1}{2}$ inches or 4 inches by 2 inches is the normal size. They look well and give a better bond than ours, but would be rejected by us because with them you cannot lay as many yards of brickwork in a day as with our 9 inches by $4\frac{1}{2}$ inches by 3 inches.

These are the circumstances we have to deal with; what can we do? When we can afford it we can have our bricks made thinner; pay the same price as for the thick ones and use the strongest language we think allowable of the perverse ingenuity of the inventor of thick bricks. But when we must use thick bricks what are we to do? There is one way of correcting to some extent the bad proportion: that is, to make the mortar joints rather thick—say $\frac{1}{2}$ inch to $\frac{3}{4}$ inch—which if we use good mortar we can do in all ordinary building without the least danger of impairing the strength of the walls, and if we make a flush joint and spread the

mortar a little over the edges of the bricks we can still further improve the proportions.

I am sure it is a mistake to cut or line the joints. It involves a lot of unnecessary mechanical labour, exposes any holes or cracks near the joints which might let water in, and gives a hard mechanical appearance which detracts from the solidity and dignity of the wall.

Before I leave this point let me read what Ruskin has to say about joints in masonry :—

"Masonry is always bad which appears to have arrested the attention of the architect more than absolute conditions of strength require. Nothing is more contemptible in any work than appearance of the slightest desire on the part of the builder to *direct attention* to the way its stones are put together, or of any trouble taken either to show or to conceal it more than was rigidly necessary : it may sometimes, on the other hand, be necessary to conceal it as far as may be, by delicate and close fitting, when the joints would interfere with lines of sculpture or of mouldings ; and it may often, on the other hand, be delightful to show it, as it is delightful in places to show the anatomy even of the most delicate human frame ; but *studiously* to conceal it is the error of vulgar painters, who are afraid to show that their figures have bones ; and studiously to display it is the error of the base pupils of Michelangelo, who turned heroes' limbs into surgeon's diagrams—but with less excuse than theirs, for there is less interest in the anatomy displayed. Exhibited masonry is in most cases the expedient of architects who do not know how to fill up blank spaces, and many a building, which would have been decent enough if let alone, has been scrawled over with straight lines, on exactly the same principles and with just the same amount of intelligence as a boy's in scrawling his copy-book when he cannot write. The device was thought ingenious at one period of architectural history : St. Paul's and Whitehall are covered with it, and it is in this I imagine that some of our modern architects suppose the great merit of those buildings to consist. There is, however, no excuse for errors in disposition of masonry, for there is but one law upon the subject, and that easily complied with, to avoid all affectation and all unnecessary expense, either in showing or concealing. Everyone knows a building is built of separate stones ; nobody will ever object to seeing that it is so, but nobody wants to count them. The divisions of a church are much like the divisions of a sermon : they are always right so long as they are necessary to edification, and always wrong when they are thrust upon the attention as divisions only. There may be neatness in carving when there is richness in feasting ; but I have heard many a discourse, and seen many a church wall, in which it was all carving and no meat."

I have very little experience of any other masonry than brickwork : only of that most intractable, hard stone which splits up anyhow like coal, and will not be cut into nice oblong pieces and straight courses. You know how they generally heap it together in Shropshire and Hereford—and for instance at Malvern—into rough, uncoursed walls, and sometimes with painful effort into a kind of opus reticulatum. You do not easily get a bond across the wall and you cannot get any longitudinal or horizontal bond at all, and you are always liable to steep cracks and fissures. You can get over both difficulties by introducing every 3 feet or so stringcourses of one or two roofing tiles or thin bricks bonded together in cement, which not only gives you a good cross and horizontal bond, but connects the chaos of rubble with pleasant horizontal lines. Only be careful you make the tiles slope down to the outside of the wall, for if damp gets in, the tiles will keep it there.

Joints are a great help also in the matter of colour. A painter can so accurately choose and arrange the tints of his pigments as to make them all come pleasantly together. A bricklayer and a stonemason have to use the colours of brick and stone as they find them. So it seems was also the case with mediæval decorators. If you were to take out the rather crude blues and reds and greens of say a painted rood screen and put them all together the effect would be thoroughly bad. But a method was discovered some time in the Middle Ages—or perhaps remembered from other earlier times—by which the crudest pigments, provided of course they were good colours in themselves, could be brought together into most delightful harmonies, and this method became a recognised method of heraldic art. The colours are always divided by a neutral ground or division. Most often these dividing lines or ground are white or gold, sometimes black ; sometimes the colour of the material itself, as when timbers are partly coloured and the colour of the timber itself shows between. In heraldry the rule runs that colour must not lie on colour or metal on metal (the metals are of course gold, and white or silver), but colours must be separated by metals and metals by colours. A white or a light-coloured mortar joint does just this very thing for us in brickwork and rough stone masonry. Black-country bricks laid all close together are nothing better than a dingy smudge, but divide them with clean light-coloured joints and a really wonderful series of colours come out, and these combine together in quite delightful harmony.

Let us think of the brick cities of the past and the different ways in which brickwork has been decoratively treated. In Bologna, enriched with modelled terra-cotta ; in Siena, jewelled with spots and lines of white marble ; in Rome, most often left in its own rugged simplicity, but sometimes covered, even on the outside, with mosaics ; in Venice, encrusted with thin plates of marble. In Germany the only brick towns I know are Danzig and Lübeck, where generally the brick depends upon itself alone, but in the latter town the bricks themselves are often coloured and glazed green and brown and yellow. In England and Holland brickwork has little assistance beyond a little diapery with grey and blue headers ; a little touching up with stone quoins and cornices. But in Normandy, and especially in the neighbourhood of Dieppe, a school of bricklayers seems to have come into existence who treated their bricks with such half-magic skill as to make one feel that no building material in the world is to be preferred to it. They played their wonderfully delicate pattern tunes in a scale of, I think, only three or four colours—little red and grey bricks about 8 inches by 4½ inches by 2 inches, white stone and grey flints, with white mortar joints ; smallish joints here, for such delicate materials did not want covering up. The work in the Manoir d'Angot and the Château d'Archelles seems simple enough, and yet when we have tried to match it in England what a failure we have made ! such failure that, unless he has happened to see the real thing, it would be hard to make an Englishman nowadays believe that multi-coloured brickwork can be good. We thought the exact proportion of the bricks did not matter : we thought white bricks would do as well as stone, and hard-cut joints instead of soft easy beds for the bricks to nestle in.

Let us talk now of roofs. William Morris said no man who has any right to call himself an architect would think of using slates—or words to that effect. What he evidently meant was that slates prepared as they are prepared nowadays—cleverly split very thin and smooth and square—cannot be successfully used, and this is certainly true. But it is also true, I think, that there is no natural material suitable for roofing, or indeed any other purpose, which cannot be successfully used if it is properly prepared and if we know how to use it. Take the most apparently intractable of all materials—purple Bangor slates. If they are quarried thick and rough and not too big or regular in shape, and mixed with other shades of Bangor slates, and set and pointed in white mortar over a white house, they make a particularly beautiful roof. It is just the case of the Staffordshire bricks over again ; they want white to bring out and again to soften the colour, and the more colour there is the more necessary is the white setting.

I have often been told that it is bad practice to set tiles or slates in mortar. But it is all right if you bed them quite solid and point the joints so as to make the surface of the mortar watertight, and this method has the advantage of helping you when you come to the valleys.

The modern methods of valley tiles and of cutting the tiles or slates in hard straight lines on to a lead gutter will never make a really beautiful roof. You want a gentler, wider sweep, and you can only get it in the old way by laying ordinary slates or tiles on a curve which, as tilers and slaters have lost the tradition, is not an easy thing to do. One way is to make the laths meet at the valley trellis-wise, and then lay a sort of secret gutter of tiles or slates on the blunted angle of the valley, and then make the ordinary tiles curve round over it. It involves a good deal of cutting and some clumsy joints, and you have to get over this either with occasional lead soakers or with cement, or both, and cement joints come quite naturally if the rest of the roof is pointed ; but if it is not they show.

It seems quite clear to me that we have no business to use deal or any soft timber in verges or eaves or, indeed, in any exposed position. It is not permanent work. It is much better to form verges and eaves with the tiles themselves, and if necessary with oversailed bricks or cornices. If you do this very pleasant things naturally happen. I am speaking for the moment of high-pitched roofs ; when you come to carry the tiles over the gable wall you can just as easily bevel it up an inch or two as not—this gives the tiles a slight tilt, which is really very necessary for the purpose of throwing back the rain and protecting the gable wall, and it gives a most pleasant little tilt to the ridge and prevents the roof from looking as if it were cut out of a large sheet with a pair of scissors. I also like to have a little tilt to the eaves, and as a matter of fact this also comes naturally if you form them without timber, for the rafters finish on the wall plate, and the wall plate comes either on the inside or the middle of the wall according to its thickness, and the tiles naturally fall into what the tilers call a very slight bell cast.

I used to think we ought in this country to confine ourselves to high-pitched roofs—I mean to a pitch of over 45°—because they are more in harmony with the northern climate and with the northern temperament, and I am not sure I was not right. But they have certain disadvantages : they tend to be on the whole rather more costly, and in public buildings either you lose space or, if they are left open, they are not very good for ventilation or from an acoustic point of view. So I have lately with some hesitation been trying low-pitched roofs, and have had very great difficulty in finding suitable tiles.

Pantiles are delightful, but I fear hardly quite safe for a low pitch. Large flat tiles are made at Bridgwater with ridges of various patterns and under various names, such as single and double Roman. The best are, I think, reliable, but they are machine-made and rather rigid in appearance. They also have a habit of dipping their tiles in uniform red clay, which they can be induced to omit. Large flat tiles turned up at either edge and the joints covered with tapered ridges can be got at Bridgwater and Reading and Maidenhead. English makers call them Italian, and they are, I think, good and handsome, but rather expensive. Tapered channel tiles set alternately concave and convex to the roof surface are good and handsome, and are called by makers Spanish tiles ; though both are used in Italy and Spain and Southern France.

Let us talk of the interior decoration of churches. Up to the time of the Renaissance the ultimate aim or ideal of all Christian schools of architecture seems to have been a more or less complete scheme of rich colour. In the early Roman churches of the fourth to the tenth century the principal means adopted were glass mosaic and marble. Mosaic was used almost universally on the semi-domes of apsidal terminations and sometimes also on the clerestory walls, as in S. Maria Maggiore. The lower parts of the walls would be covered with thin sheets of marble. At Ravenna and Venice amongst other places the same methods were used. Sometimes the colour scheme was not completed, and sometimes, I think, was not intended to be completed, and large parts of the walls were covered with plain whitewashed plaster. Sta. Sabina, for instance, has a band of mosaic decoration—in this case marble mosaic, not glass—all along the top of the arcade, and above it the clerestory wall is whitewashed plaster. During all this time wall painting seems to have been used to a small extent in conjunction with mosaic, and as time went on this method became more and more general till in the thirteenth century, at Assisi and the Arena Chapel at Padua, the whole surface of walls and vaulted roof was covered with painting. There are some cases—all, I think, of later date, that is eleventh and twelfth centuries—where brick walls, especially in Lombardy, and stone walls as at Lucca, were left uncovered.

In Northern Europe the same general aim and intention must, I think, have existed, though the scraping and whitewashing which has been done in more recent times makes it difficult to guess how far such aims were actually carried out. Mosaic and marble were indeed seldom if ever used, but the great Romanesque churches at Cologne seem to have been entirely covered with wall paintings. The same was doubtless the case with the Romanesque churches of Central and Southern France. The immense brick churches of the Hanse towns on the Baltic coast are at the present time covered with many coats of thick whitewash, but in some cases, as in the Hospital of the Holy Ghost and the Aegidien-Kirche at Lübeck, the vaulting is plastered and richly decorated with scroll patterns. In the Storkyrka at Stockholm a very light and beautiful effect is obtained by scroll-work on a white plaster ground between bright red brick vaulting ribs. In France the little chapel in the Forest near Loches, of which we have a drawing in the Art Gallery by Mr. Rooke, is covered with painted decoration, and in

England such instances as the little Norman church at Kempley in Gloucestershire show that the same idea existed. I was doing some work at a little fourteenth-century church near Bath some years ago—I wish to defend myself by saying that my chief aim was to conceal the fact that an architect had been there—when I found that the whole of the piers and archivolts of the nave had once been covered with coloured patterns; and in small Norman churches which have not too much attracted the attention of our profession we know we seldom find a door or window without some traces of colour on the stone and plaster.

The development of glass staining in the thirteenth century must have been a great architectural sensation. You can certainly get a greater depth of brilliance of colour in a transparent window than with wall painting or mosaic. Architects must have been filled with a new and overwhelming enthusiasm, for in the North of France and to a less extent in England and Germany they reduced their masonry to little more than a framework for their windows. The development of vaulting is, I think, rightly considered to be the chief element in the development of the thirteenth-century building in France and Europe generally, but the churches of Chartres and Rheims and Amiens and Beauvais would never have been exactly what they are if glass staining had not been invented at that time. Glass painting must, I fancy, have gone far to kill the interest in surface decoration of masonry in France, but I am not sure if this was to the same extent the case in England. I find it difficult to believe that the extreme elaboration of stone mouldings in England was simply due to the effects of line and light and shadow which can be so produced. I cannot help suspecting that the endless juxtaposition of hollows and rounds and rolls and fillets, and ogees and boutells, were the basis for a great elaboration of coloured patterns such as are still preserved in the wood mouldings of the fifteenth-century screens and roofs. But in spite of certain relics of colour still preserved under coats of whitewash here and there the scrapers and restorers have made it hard to be sure of this. The most characteristic colour decoration of the fifteenth century in this country was on wood—on the screens and roofs of Norfolk and Suffolk and Devon and Somerset. There must have been many such screens in France, though most of them were destroyed at the Revolution; and also in Germany, though the only one I know is the particularly fine one at Lübeck Cathedral, with its painted figures of Adam and Eve as well as the more usual figures of SS. Mary and John at either side of the central crucifix. But France and Germany are very rich in carved panels in high relief, which, at any rate in the former country, are always richly coloured. Such are the altar-pieces in the N.W. chapel at Abbeville, the ambulatory panels at Chartres, and the panels in the transepts at Amiens.

There is also some very fine coloured timber-work in Italy, though the methods used are quite different from those of Northern Europe. In England and Germany and France, as far as I know, woodwork, whether of screens or roofs, was nearly always entirely covered with patterns painted in the case of screens in tempera on a groundwork of gesso, and in that of roofs direct on the timber. But in Italy the timber is only partly covered with colour, and the colour of the timber itself forms a very effective background. This kind of colouring seems to have been used in that country much earlier than in the north. The roof of San Miniato at Florence seems to be of the same date as the church, viz. the eighth century. The roof of the sacristy at Sta. Croce is probably of the same date as the church—thirteenth century; whether the colouring was done at the same time I have not been able to find out, but I saw traces of very old colouring on the roof timbers of Sto. Sabas at Rome, which was built in the seventh century.

The timber generally used in Italy is pine, which turns in time a rich dark reddish brown; the roof of San Miniato, however, has turned a silvery grey. Both form, as mentioned above, an admirable background for patterns in bright red, blue, green and white. The practical difficulty one has to contend with in this method is the change in the colour of the timber which comes about with age. Your background won't be the right colour for your pattern till long after you are dead. You can to some extent get over this difficulty by staining the background, and there seems to be no reason why you should not colour your timber with pigment thinly mixed with water or spirit, just as rightly as you may colour it with pigment ground thickly in oil or wax or yolk-of-egg or size. But as a matter of fact the effect of stain is not satisfactory. If you are painting on a dark background, as of old pine or oak, you would use light colours; one might, I think, get a satisfactory effect by using dark colours combined perhaps with black on light new timber, but your timber will put you wrong in time.

The pigments used in English screens seem to have been mixed with some kind of tempera—possibly yolk-of-egg. It wants men of a good deal of experience to use it successfully, and it is difficult, without specially training them, to get such men. I am inclined to think wax is a better medium than oil, if only because by slightly rubbing it you can give it a slight polish at the same time as you beeswax and polish the oak or pine.

We do not often get an opportunity of using mosaic or marble: we generally have to choose between bare stone or bare bricks or plaster. The worst of brickwork is that it will not wash; when it gets dirty, as it does here in Birmingham, it must remain dirty; and another difficulty is that it is the worst possible background for other colours: no tapestry or hangings will look their best against it, and it is not a good frame for coloured glass. If you have brickwork you must have brickwork for its own sake and you must not mind how much you have of it. Of course we are all glad when we can get the dignity of interior ashlar, and it forms a good framework for windows and a fair background for other kinds of colour; but as a background for colour there is nothing, I think, so good as whitewashed plaster. Do you remember the colour of the windows of S. Pierre at Chartres against the white piers and walls? the mosaic on its white ground at Sta. Sabina, the wall paintings at South Leigh in Oxfordshire and the tapestries at Nuremberg? Every bit of colour added at any time or anywhere counts its full value whether in windows or hangings or coloured roof or tesselated floor.

The treatment of plaster gives rise to various difficulties. If it is ever intended or likely to receive colour it must have a fairly smooth surface, and I don't think you can make any general rule between a steel and a wooden float; but I think it is better not to make the surface too even—a little unevenness following, though not in excess, the uneven surface of brick or rubble walls is, I think, an advantage. It gives a richer play to the sunlight which falls upon it, just as a little fulness

adds to the richness of hanging silk or tapestry, and it suggests the softness of the material and differentiates it from the hard, true surface of ashlar and marble. Other difficulties arise when it is used in combination with uncovered stone. You have to deal with the line which divides the one from the other. You may make the division in stone, as with the light fillet or moulding, which often divides Norman arches from the wall above, or you may make the line in plaster as when its edge is cut in rounded scollops where it lies upon the stone. But the dividing line must, I think, be acknowledged and carefully made pleasant or else it must be quite obliterated, and this can only be done by whitewashing alike stone and plaster. Nothing is uglier than the unpremeditated line between the plaster and the quoin stones of window and door recesses.

When we come to the decoration itself it becomes necessary to attempt a certain amount of classification. In mediæval literature we find classification under such heads as the Mirror of Nature (which included plants and animals), the Mirror of Science (which included the Arts and Crafts, Manual Labour and Philosophy), the Mirror of Morality, the Mirror of History (the history of the Old and New Testaments and lives of the Saints), and, lastly, Theology and Doctrine. The last four classes are represented in decoration almost entirely by human figures. For our present purpose a simpler classification will perhaps suffice. We may be satisfied with three classes, which I may call Theology and Doctrine—represented by figures ; Nature, represented by plants and animals ; and lastly patterns. The two first present great practical difficulties in these modern days, for the number of painters and sculptors who are able to put real life and real thought into their figures is very small, and if we cannot get real life and real thought we are better without figures altogether. It comes to this that in all ordinary cases we are limited to patterns, though I think the time cannot be far off when our School of Art will be producing pupils who will give us at any rate some living work in plants and animals.

The history of patterns is a very fascinating study. An excellent book on pattern designing, published this year by Mr. Archibald Christie, traces back an unexpected number of well-known pattern forms and motives to a definite historic or symbolic origin. There are still a certain number of patterns or elements of patterns which retain for us a symbolic meaning, but for the most part patterns are more or less mechanical dispositions of lines and figures which we use with purely decorative intention.

I confess I hold very strongly that, just as in matters of construction those buildings are most vitally interesting which have no elements which do not arise out of constructive necessity, so that form of decoration which is confined to the expression of ideas so strongly felt that they demand expression is by far the noblest and most desirable. But there remains a large sphere for the use of a more simple and childlike form of decoration, whose object is nothing more than the addition which can be made to the interest and beauty of the materials we use by the enrichment of their texture or by more or less intricate disposition of their colour. This kind of decoration Mr. Ruskin calls " that virtue of building through which (the builder) may show his affections and delights." I ask your leave to quote rather fully from some passages on this subject in the first volume of the *Stones of Venice* which seem to me to provide some very valuable explanations and regulations of this side of our work. " It is not," he writes, " that the signs of his affections which man leaves upon his work are more ennobling than the signs of his intelligence ; but it is the balance of both whose expression we need, and the signs of the government of them all by Conscience ; and Discretion, the daughter of Conscience. So, then, the intelligent part of man being eminently, if not chiefly, displayed in the structure of his work, his affectionate part is to be shown in its decoration ; and, that decoration may be indeed lovely, two things are needed : first, that the affection be vivid, and honestly shown ; secondly, that they may be fixed on the right things."

" You think perhaps," he goes on, " I have put the requirements in wrong order. Logically I have, practically I have not : for it is necessary first to teach men to speak out, and say what they like, truly ; and, in the second place, to teach them which of their likings are ill set, and which justly. If a man is cold in his likings and dislikings, or if he will not tell you what he likes, you can make nothing of him. Only get him to feel quickly and to speak plainly, and you may set him right. And the fact is that the great evil of all recent architectural effort has *not* been that men liked wrong things ; but that they either cared nothing about any, or pretended to like what they did not. Do you suppose that any modern architect likes what he builds or enjoys it ? Not in the least. He builds it because he has been told that such and such things are fine, and that he *should* like them. He pretends to like them, and gives them a false relish of vanity. Do you seriously imagine, reader, that any living soul in London likes triglyphs—or gets any enjoyment out of pediments ? You are mistaken. Greeks did : English people never did—never will. . . . Very few faults of architecture are mistakes of honest choice : they are almost always hypocrisies.

" So, then, the first thing we have to ask of the decoration is that it should indicate strong liking, and that honestly. It matters not so much what the thing is, as that the builder should really love it and enjoy it, and say so plainly. The architect of Bourges Cathedral liked hawthorns, so he covered his porch with hawthorn—it is a perfect Niobe of May. . . . The old Lombard architects liked hunting, so they covered their work with horses and hounds, and men blowing trumpets two yards long. The base Renaissance architects of Venice liked masquing and fiddling, so they covered their work with comic masks and musical instruments. Even that was better than our English way of liking nothing, and professing to like triglyphs.

" But the second requirement in decoration is that it should show we like the right thing. And the right thing to be liked is God's work, which He made for our delight and contentment in this world. And all noble ornamentation is the expression of man's delight in God's work. So, then, these are the two virtues of building : first, the signs of man's own good work ; secondly, the expression of man's delight in better work than his own."

We seem to have been led rather far from my subject of patterns, and indeed in writing of decoration Mr. Ruskin doubtless had in his mind rather the definite representation of natural forms in sculpture and painting than the simpler pattern work of which I have been speaking. But his words have, I think, here also a close application, for the beauty, for instance, of the marble pavements in the early Roman churches lies not so much in the patterns themselves as in the delight of

the workmen in the beauty of the marble which they used, which is enhanced by the skilful arrangement and juxtaposition of its different shades and colours: and the beauty of the painted roof of the sacristy of Sta. Croce at Florence lies again not more in the painted patterns themselves than in their enhancement of the beauty of the grain and colour of the great pine timbers which they adorn. And this leads me to a point of, as I think, great importance in the treatment of all materials, viz. that we get the best result by respecting and showing delight in their especial character and function, rather than by trying to get our own particular effect at their expense.

But to go back to the passage which I have ventured to read from the *Stones of Venice*. It was written some sixty years ago, in 1850 or 1851, and it gives rise, I think, to some interesting reflections. In the first place Englishmen on the whole seem to have believed it: at any rate it was followed by a considerable lull in pediments and triglyphs. But the question I want to ask is, Was it true? for the strange thing is that after a lull of nearly fifty years pediments and Ionic columns are back again and apparently as firmly established as ever. Was, then, Ruskin wrong? do we really like our pediments and columns? I do not think we do; I think their return only means that we have not yet found anything we really do like. I know this is a position I cannot really prove or establish; but I should like to try to show that whether we do like them or not we ought not to like them in the way they are now so largely used. For these things are really—as they were to the Greeks—serious things, but we use them frivolously; they are, as they were to the Greeks, real construction, but we use them as patterns. I know it may be said that the Ionic column is in a sense now used constructionally—that it is used as a pier, as a thickening of the wall, and that it is just as much construction as a real pier or buttress. But if there is any truth in this it is only a half-truth. If Ionic columns as now used are constructive they are bad construction. An effective pier or thickening of the wall must, if it is to be effective, be bonded into the wall; but these columns stand free: a pier which is intended to strengthen a wall should look as if that was its function, but the columns look as if they were intended to support something; and what do they support?—a cornice which need not have been there at all.

I venture, then, to suggest the view that the very general modern use of the column and pediment is an hypocrisy—that we are using as a pattern constructional forms which can only really give us pleasure when they are used for their proper and serious functional purpose. But I also venture to think that things are more hopeful now than when Mr. Ruskin wrote, "Do you suppose that any modern architect likes what he builds or enjoys it?" Yes, I do; and I think that amongst the great mass of modern buildings signs begin to show themselves of real sincerity and real delight, which in time will gather themselves together into a system or a style or a method of building which will be strong enough to hold its own against passing fashions and ephemeral revivals.

Manchester Society of Architects. – In a Paper read before this Society on Wednesday, 14th December, Professor Capper said that the idea of building a great Roman Catholic Cathedral in London might be said to date from the restoration of the hierarchy, with the appointment of an Archbishop of Westminster, in 1850. But it was not until the time of Cardinal Vaughan's prelacy that Mr. J. F. Bentley was, without competition, entrusted with the great work of designing the building. Cardinal Vaughan laid down certain conditions as to size, space, chapels, and the style of the building, but otherwise Bentley had a free hand in the design. Owing to its proximity to Westminster Abbey, and to the existence of a great classic cathedral such as St. Paul's not far distant, it was considered desirable to avoid competition with either, as far as style was concerned, although Bentley had a decided leaning towards Gothic. Cardinal Vaughan, however, selected Byzantine, and Bentley felt that his duty was to accept the style (which he called primitive Christian) and adapt it to congregational needs. Almost immediately after his appointment Bentley left for a tour of the domed churches of Italy, but curiously enough did not proceed to Constantinople. Professor Capper traced the evolution of the domed church from the simple nave, with two or three domes as found in the south of France, to the Greek cross type with five domes, as at St. Mark's, Venice, and proceeded to explain how Bentley's final design was arrived at by plans showing three different stages in its development. The first scheme showed aisles axial with the eastern chapels, and two campanili at the west end. In the second the nave arcade was continued across the transepts, which greatly helped the continuity of the interior, and one of the campanili was omitted at Cardinal Vaughan's request. The third and final plan showed the addition of sanctuary aisles and a narthex, and the removal of the campanile to the north-west. Some interesting diagrams showing the construction of the building were explained, and it was pointed out that externally the main flying buttresses were placed opposite the centre of the domes, and not opposite the piers as one would expect. The lecturer compared the cathedral with that of Alby, a brick building of the thirteenth-fourteenth century, with a vaulted roof of 60 feet space and a dignified and impressive exterior, which he thought was a more restful treatment than that adopted at Westminster.

Leicester and Leicestershire Society of Architects.

A special meeting of this Society was held on Thursday, December 8, 1910, when all architects in practice in the Society's Province and their Senior Assistants were invited to attend. Mr. W. M. Cowdell, President of the Society, was in the chair, and some forty architects from all parts of the Province attended. Mr. A. W. S. Cross, Vice-President R.I.B.A., and Mr. George Hubbard, F.S.A., Member of Council R.I.B.A., gave a full explanation and details of the scheme for the admission of Licentiates to the Institute. Both speakers dwelt on the great advantage not only to architects but to architecture likely to result from an efficient Registration Bill, and the necessity for the Institute to have the great majority of the profession behind it before approaching Parliament. The addresses were followed by a discussion, and about twenty-five applications for Licentiateship were received during the evening.

Architects' Benevolent Society.

The Hon. Treasurer of the Architects' Benevolent Society has recently received the following donations:—Mr. Leonard Stokes, *President*, £21; Sir Lawrence Alma-Tadema, £5; Mr. W. H. Lever, £5.

New General Post Office, E.C. : Public Office.

THE NEW GENERAL POST OFFICE, LONDON.

By Sir Henry Tanner, I.S.O. [*F.*]

Read before the Royal Institute of British Architects, Monday, 2nd January 1911.

THE new General Post Office, to be known as " King Edward's Building," recently completed, and occupied for business early in November last, has formed the subject of numerous articles, both in the ordinary press and in the professional papers. In these circumstances you will pardon me if I find it necessary to repeat, to some extent, what has already been published.

Notwithstanding the removal of the provincial mails and the parcels post work to the Mount Pleasant Office, Clerkenwell, formerly the site of the House of Correction, in 1900, it became evident at or about the same time that it would be necessary to take immediate steps to acquire other property in order to provide for the expansion of the work still remaining at the old General Post Office, built from the designs of Sir Robert Smirke and completed in 1829. Opportunely, the site of Christ's Hospital between King Edward Street and Giltspur Street became vacant, owing to the removal of the school to Horsham, and part of the area, amounting to about 3½ acres, was acquired from the Governors in 1904.

The old General Post Office has, since 1900, been occupied by the Controller of the London Postal Service and his staff for the collection and delivery of letters and newspapers in the City or E.C. district, and for the despatch of Foreign and Colonial mails. As giving some idea of the magnitude of the work to be coped with, I may say that the removal to Mount Pleasant relieved the building of 2,850 men, leaving 2,150 only in the old building, but there were at the date of removal to King Edward's Building 3,750 of all ranks, including 1,400 postmen. Meanwhile the force at Mount Pleasant has increased from 2,850 to 4,550. These numbers are exclusive of the temporary force employed at Christmas. The work dealt with per week is as follows :

5½ millions of letters &c. delivered in the E.C. district, and 3½ millions to other districts of London and by certain provincial mails, and 3½ millions despatched to foreign countries and the colonies : in all 12½ millions, weighing about 366 tons.

These figures are so gigantic that it is scarcely possible to form any idea of what is required to deal with so huge a mass of mails. In consequence, therefore, of the immense growth of the work, the old building, which in 1829 was sufficient to accommodate all branches, with a residence for the secretary, and many bedrooms for the clerks, has had to be abandoned, and seven large buildings provided to meet present-day requirements, while the eighth is being considered. Since that date the staff has expanded from 800 to 20,000.

No steps were taken for some time towards proceeding with the proposed building except in the preparation of sketch plans for consideration. In the meantime, reinforced concrete works had been gradually coming into notice, and I was induced to inspect several buildings of that form of construction, with the result that I came to the conclusion that the system was excellently adapted for the purpose of this building, and would economise both space and money, having in view the fact that Government buildings are exempted from the operation of the London Building Acts and that therefore full advantage could be taken of the new methods. Upon going into the matter of cost as carefully as possible, I found that if built in the ordinary way with steel construction, the approximate cost, inclusive of fittings &c., would be £355,000, but if in reinforced concrete, £295,000 would probably suffice. The latter figure has proved to be correct, so that there has been an approximate saving of £60,000, and apart from this considerable space has been gained due to the great reduction in wall thicknesses. The cost per foot cube of the reinforced concrete structure was about 2¼*d*. The sum of £295,000 is exclusive of engineering work, such as heating, lighting, lifts, telephones, conveyors, &c.

The Hennebique system was five years ago the most prominent, and had been adopted for the greater number of structures erected in this country. In February 1906 the Commissioners of Works agreed to my proposal to adopt this system, and to the employment of Mr. L. G. Mouchel to act as consulting engineer to collaborate with me in the preparation of the first contract, which consisted of the excavations, reinforced concrete work, and so much general work as was necessary to render the building watertight, but with the exception of the Portland stone fronts. Towards the end of 1906 tenders were received, and in March 1907 a commencement was made by Messrs. Holloway Bros., the foundation stone having been previously laid by King Edward VII.

The requirements of the Postal Service rendered a yard with loading platform essential at each end of the sorting office, and it was decided that the Public Office should be in King Edward Street. It was therefore necessary to separate the Public Office block from the main block by a covered loading yard. A road connecting the east and west loading yards was required, and this was arranged on the north side, affording a lighting area, while the churchyard gave an open space to the south. Further space for enlarging the sorting office is available over the western yard, and with that in view the greater part of the elevation next this yard is temporary, and brickwork rendered in cement has been used where possible to facilitate removal.

In arranging preliminaries with Mr. Mouchel, representing M. Hennebique, I stipulated that the columns were to be as few and as small as possible, in order to give the largest practicable unobstructed areas, that the beams were to be of the minimum depth, that the eastern platform was to be unobstructed by columns, that there must be a bridge connecting the two buildings at the second floor level, and that two subways were to be constructed under King Edward Street, connecting the new building with those existing. I arranged the superloads at 1 cwt. for the ground floor, and ¾ cwt. for the remaining floors, 65 lbs. for the roof, and the factor of safety at 4. These superloads were arrived at after experiment. The north road was to be constructed to support a lorry with boiler weighing about 20 tons in all, and the remaining

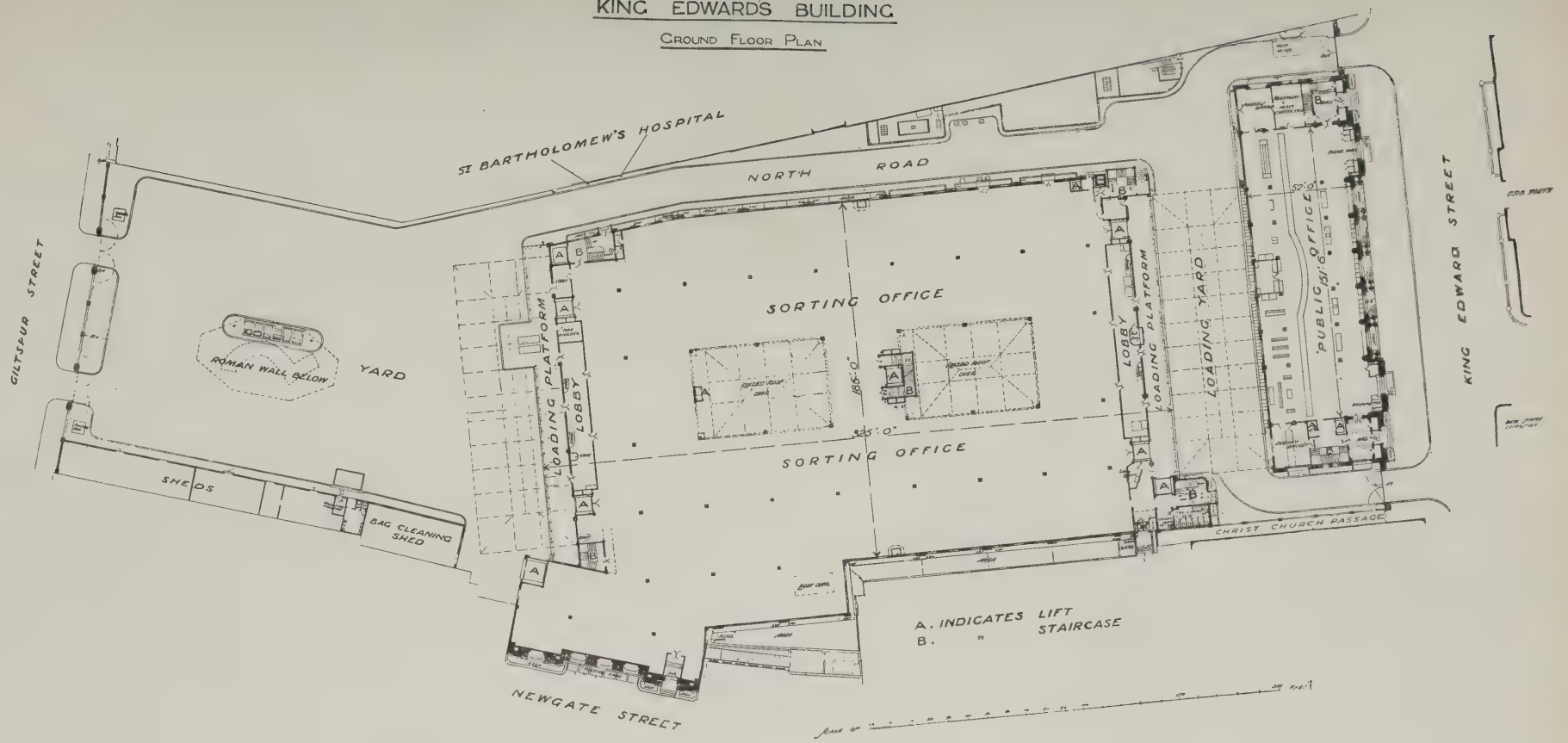


FIG. 1—GENERAL PLAN.

roads to support motor vans. The superload in the latter case was taken at 2 cwt. per foot superficial.

With regard to drawings : Mr. Mouchel was supplied by me with general plans, sections and elevations, also outline details throughout, and from these the drawings showing reinforcement were prepared ; consequently many more drawings were required than would have been the case had the building been of ordinary construction. Exclusive of engineering details about 1000 drawings were used.

The building has two stories below the ground, and these extend the whole length, including therefore the space under the eastern loading yard. The dimensions of the basement are 446 by 210 feet, those of the sub-ground floor being slightly less. The general constructional arrangement of the sorting office or main block is that the principal beams run from north to south, and the subsidiary or floor beams from east to west, that is, the long way of the sorting office. The former are of arched form and have a very light appearance. There are two open areas for light above the ground floor, and these have governed the disposition of the columns. There are five spans across the building, north to south, four of 35 feet and a centre one of 45 feet, while in the other direction there are seven of 34 feet, one of 40 feet, one of 21 feet 6 inches, and a cantilevered span of 12 feet 6 inches at the east end.

The Sorting Office block consists of six stories of the following heights, floor to floor :

Basement Floor . .	13 feet 3 inches	First Floor . . .	18 feet 0 inches
Sub-Ground ,, . .	16 ,, 3 ,,	Second ,, . .	18 ,, 0 ,,
Ground ,, . .	20 ,, 6 ,,	Third ,, . .	14 ,, $3\frac{1}{2}$,,

The basement will be used for the storage of cable and old stores; the sub-ground for bag and other stores ; the ground, first, and second floors for sorting purposes ; and the top floor for rest and refreshment.

The Public Office block has seven stories, the heights of which are : Public Office 23 feet floor to ceiling, remaining floors from 15 feet 3 inches to 12 feet 6 inches floor to floor. This floor above the Public Office will be used entirely for clerical work.

The section shows a complete bay north to south, with the retaining wall supporting the earth and superimposed buildings round the site. The retaining walls vary from 7 inches to 8 inches thick, strengthened by beams and counterforts, and are, in fact, floors placed on end. They are maintained in the vertical position by the arched beams or struts which are continuations of the main floor beams. The reinforcement in the wall slabs consists of $\frac{7}{16}$-inch diameter horizontal rods spaced at from 4-inch to 10-inch centres on the inside of the wall, and $\frac{5}{16}$-inch diameter rods on the outside spaced at from 8-inch to 24-inch centres. There are also vertical rods of $\frac{5}{16}$-inch diameter spaced at 8-inch centres, and stirrups are used. The vertical counterforts, 14 inches by 7 inches, arranged about 5 feet 6 inches apart, are supported by horizontal beams and are designed in a similar manner to the ordinary floor beams. The former have two bent and two straight bars of 1 inch diameter, and the horizontal beams are similarly reinforced, but with bars of varying diameters.

The columns are square, and all are sheathed with steel to a height of 4 feet to take the impact of trucks, &c. They stand on reinforced concrete slabs about 13 feet 6 inches square, which are in nearly all cases on the gravel. At the north-west angle, however, clay was found at a higher level, the gravel disappearing. The slabs are reinforced with bars $\frac{7}{8}$-inch diameter placed at 8-inch centres and crossing one another, and are further reinforced with a mesh of smaller diameter bars at various levels and stirrups.

The reinforcement in the columns varies. The columns in the basement are 28 inches square and have six $2\frac{1}{4}$-inch and six 2-inch diameter bars linked together with $\frac{3}{16}$-inch diameter rods placed 4 inches apart. Those to the sub-ground are 24 inches square and have twelve

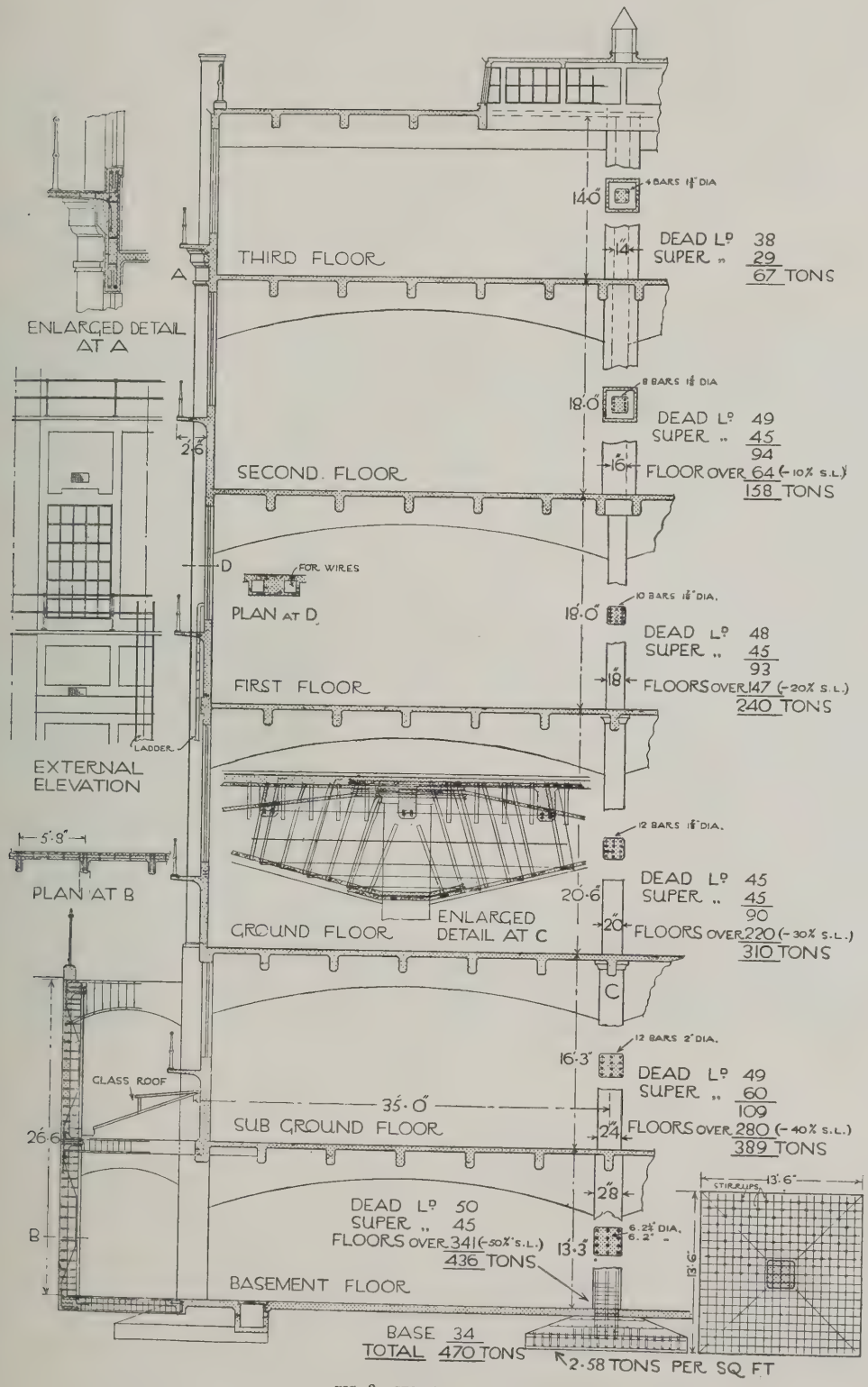
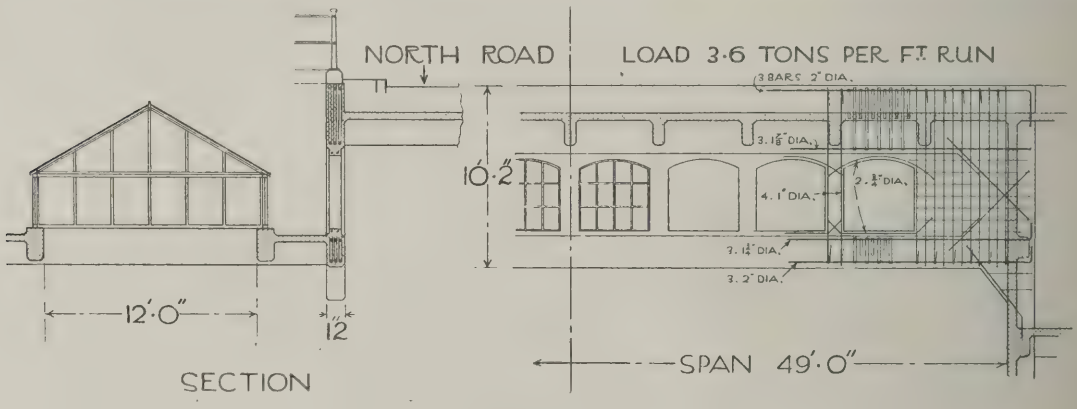


FIG. 2.—SECTIONAL DIAGRAM.

2-inch diameter bars with links as before 5 inches apart. The ground floor columns are 20 inches square and have twelve $1\frac{7}{8}$-inch diameter bars. First floor columns are 18 inches square with ten $1\frac{7}{8}$-inch diameter bars. Those to second floor are 16 inches square with eight $1\frac{5}{8}$-inch diameter bars, and those to third floor 14 inches square with four $1\frac{3}{4}$-inch diameter bars, the links in each case being 5 inches apart as in the sub-ground. The vertical bars have socket or sleeve connections at floor levels. The above applies to the greatest number of columns; some have heavier reinforcement.

The arched main beams are 2 feet 6 inches in depth at the centres and 5 feet 3 inches at the haunches, the thickness being 10 inches. The depths include the floor slab. The reinforcement for these beams when of 35 feet span consists of two $1\frac{5}{8}$-inch diameter bars at the top and four $1\frac{3}{4}$-inch or 2-inch bars at the bottom. Two of these follow the curve, and when they reach the haunches pass horizontally through the column and then follow the curve of the adjoining beam, passing 2 feet into it; the other two bars are horizontal for a third of the span, then bend up at a slope till within 3 inches of the top, and are carried through the column and 2 feet into



HALF ELEVATION OF GIRDER CARRYING NORTH ROAD OVER BOILER HOUSE.

FIG. 3.

the next beam as before. The two top bars also pass into the adjoining beam 2 feet. There are numerous stirrups $1\frac{1}{2}$ inch by $\frac{1}{8}$ inch, also similar bars placed radially to the soffit, and a series of horizontal $\frac{9}{16}$-inch bars passing through the columns and well into the haunches of beams. For larger spans and the heavier superloads the reinforcement is varied accordingly, and the beams in the ground floor are 3 inches deeper in the centre and 2 inches thicker, the maximum being the centre 45-feet spans.

The secondary or floor beams are 8 inches wide and $19\frac{1}{2}$ inches deep, including the floor slab, and are spaced at about 5 feet 10 inch centres. They are reinforced with two straight and two bent bars of various diameters with stirrups of $1\frac{1}{4}$-inch by $\frac{1}{8}$-inch hoop steel spaced according to the shear stresses. The floor slabs are $3\frac{1}{2}$ inches thick and are reinforced with $\frac{5}{16}$-inch diameter bars placed at 10-inch centres straight and bent alternately, continuous over the beams, with an overlap of 12 inches. Similar rods, at 12-inch centres, are placed near the top of the slab running in an opposite direction. The lower rods have stirrups at varying distances. The basement floor slab is 5 inches thick and has the same diameter rods placed near the top at 8-inch centres both ways with suspended stirrups. The roof is flat and is constructed similarly to the floors, but with a slight camber to give falls.

The external wall panels are 6 inches thick and extend from column to column, a distance

of about 34 feet, and are reinforced as shown in the diagram. The portion of wall between the head of one window and the cill of that above is reinforced to act as the outer floor beam, and to carry the cantilevered galleries which surround the building and the wall itself. The internal walls to the staircase, lift shafts, etc., are 6 inches thick, and the sides of the ventilating shafts are 3 inches thick.

The galleries referred to above are carried round the Sorting Office block under the windows for the purpose of cleaning and replacing glass, painting, or performing other similar services so that the postal work going on night and day may be interfered with as little as possible. Access is in every case obtained by means of permanent outside iron ladders. These galleries are all of concrete, being formed with the walls. The reinforcement is shown on the section.

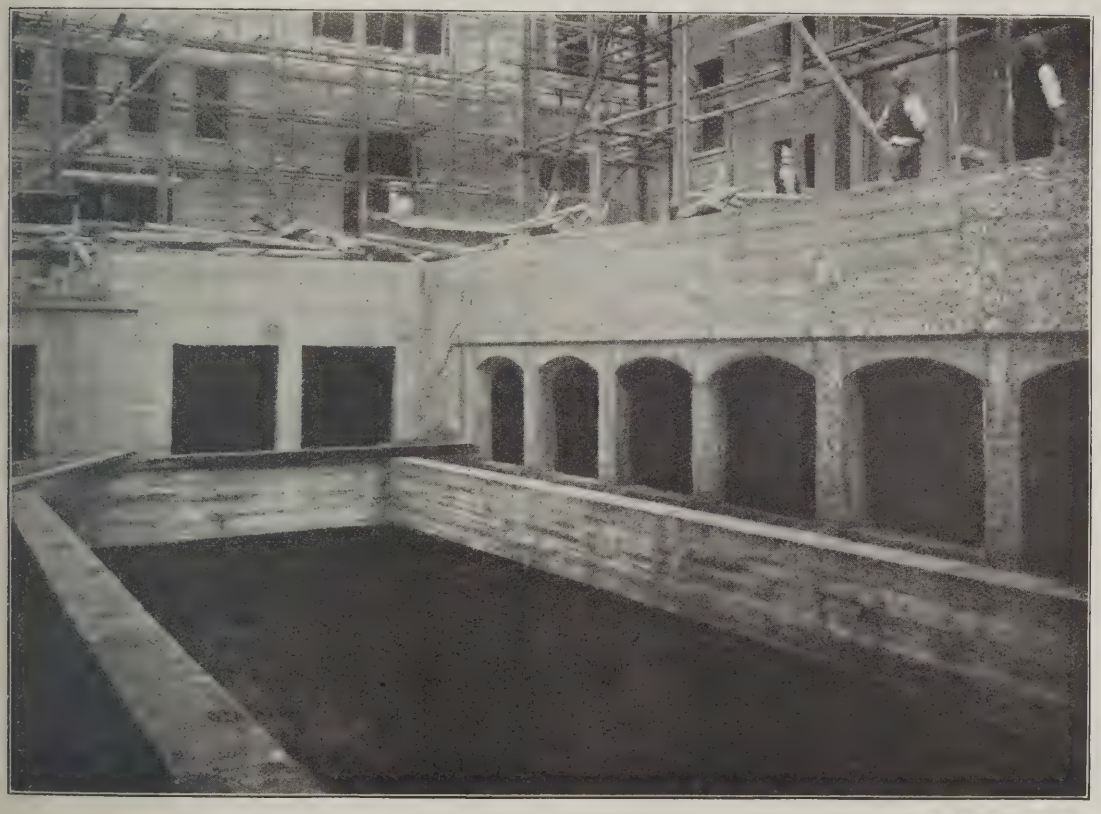


FIG. 4.—BOILER HOUSE GIRDER.

All external angles to beams, walls and columns are chamfered, and internal angles are strengthened by angle fillets.

The boiler house is placed to the north of the main building, partly under the roadway and partly under a flat roof at a lower level containing a skylight 36 feet by 12 feet, provided to facilitate the getting in and out of boilers with the minimum of labour and expense. The girder supporting the north side of the road is of 49 feet clear span, and is perforated for light and ventilation to the boiler house below. This girder appears to be of ingenious construction.

The chimney is of reinforced concrete, and although within the area of the main building, is quite independent, to allow of expansion and contraction. The internal dimensions are: 4 feet by 3 feet 6 inches, and the height from the boiler house floor is 130 feet. The thickness of the walls varies from 8 inches to 6 inches, and the shaft is lined for 50 feet in height with $4\frac{1}{2}$-inch firebrick, divided into three sections supported independently of each other. Between the

concrete wall and the lining there is a 2½-inch air space. So far it shows no signs of failure. The reinforcement is heavy throughout, and consists of a double series of bars, both vertical and horizontal, for the whole height, except the top 20 feet where one row has been used. For the lower part the diameters of the reinforcement are 1 inch and $\frac{15}{16}$ inch, the former being to the outside, and for the upper 20 feet $\frac{3}{4}$ inch diameter.

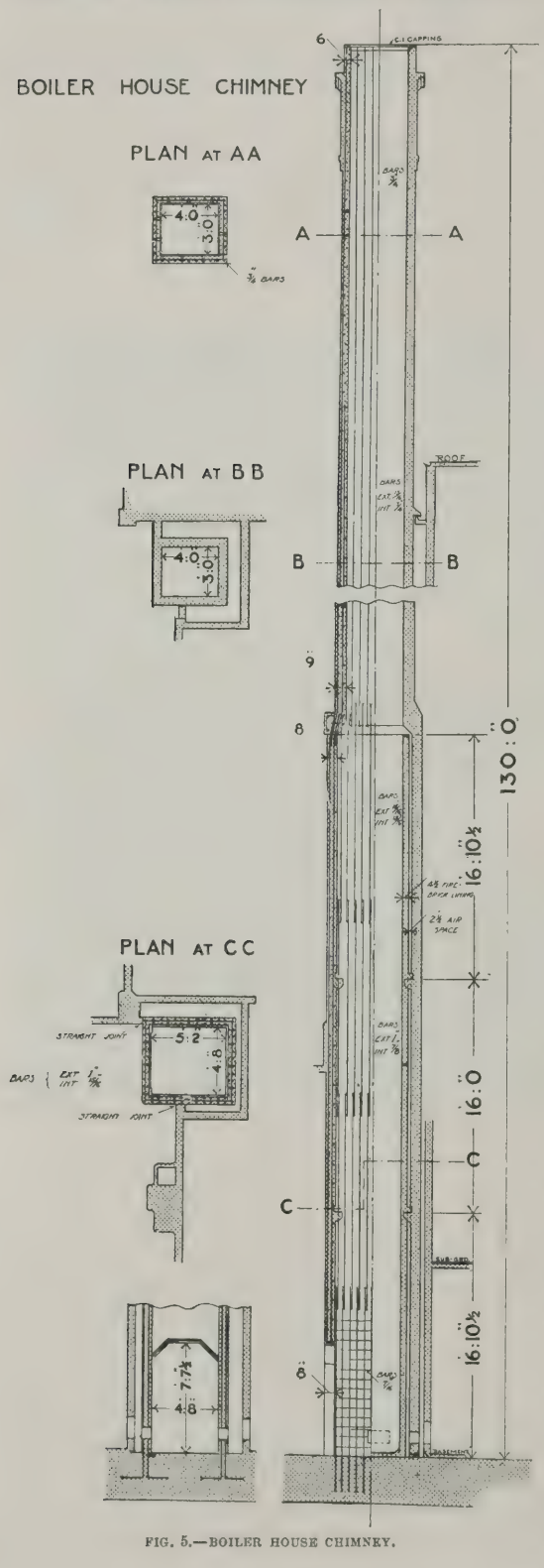


FIG. 5.—BOILER HOUSE CHIMNEY.

The east platform has been constructed within the building and without any supports upon it, the upper floors projecting 12 feet 6 inches over it. This has been done by placing the main line of columns at the back and carrying the superstructure by means of cantilevers, the floor beams extending over the platform, and, of course, being designed to act as such with special reinforcement. Each floor and outer wall is independent of that above or below, so far as support is concerned. The method of reinforcement is shown on the diagram. Special beams are constructed in the second floor which, in addition to the floor and walls, support the bridge connecting the two buildings.

The bridge has a span of 50 feet and is 6 feet 6 inches wide and 9 feet 6 inches high. The lower part of the side walls is 5 inches thick, reinforced to form the girders carrying the whole structure, and the upper part 4 inches. The reinforcement in the portion beneath the cills consists of four 1⅞-inch diameter bars, two at the top and two at the bottom, linked together with vertical shear bars 6 inches apart, the diameters varying from ½ inch at the supports to ⅜ inch at the centre.

The ventilating fan chambers and the ducts thereto, also the lantern lights, have been constructed of reinforced concrete.

The staircases are of reinforced concrete throughout brought up with the other work. Each flight constitutes a slab, the reinforcement consisting of nine ⅝-inch diameter bars, four of which are curved. The bars are continued through the landings which have stiffening beams. The longitudinal bars are crossed at 12-inch centres by ⅜-inch diameter bars, and there are the usual stirrups. The steps have nosings of "Mason's treads," and the remainder of treads and landings are finished with granolithic.

The arrangement of the front building was primarily governed by the requirements of the ground floor, which consists of a large Public Office 152 feet by 57 feet with entrance lobbies and a staircase at each end, together with other offices. The supports in the Public Office are placed

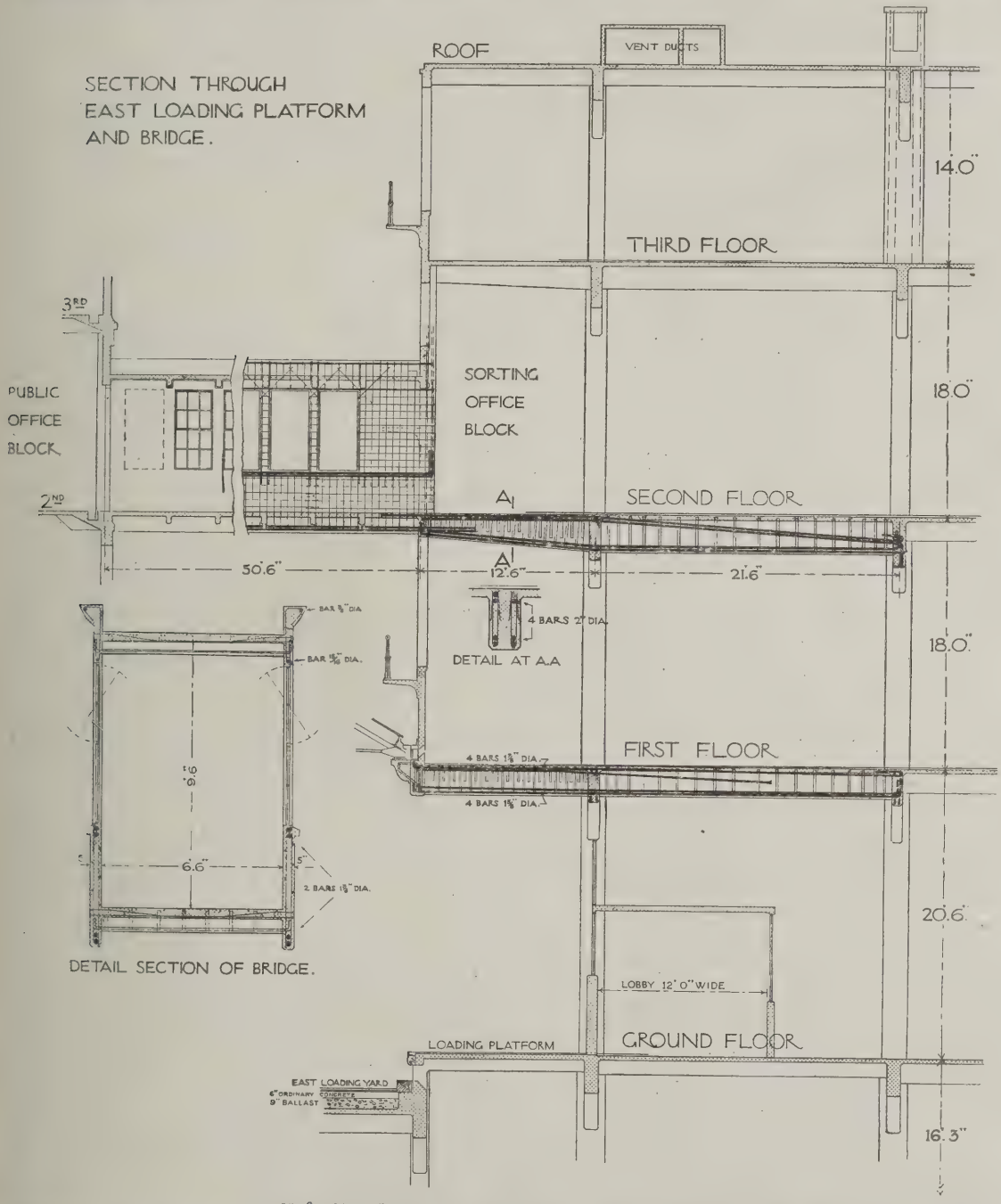


FIG. 6.—EAST PLATFORM AND CONSTRUCTION OVER, AND BRIDGE.

nearer the walls, leaving a wide centre or nave 26 feet 10 inches in width, the aisles being 12 feet 6 inches. These supports do not coincide with those of the floors over, the requirements there being rooms to the outside with a central corridor of ordinary width, the columns being on either

side of it. Consequently, a deep and strong girder was necessitated to support the upper floor and to transfer the load to the pillars below. These girders run east and west and are 5 feet deep and 20 inches thick. The reinforcement is naturally heavy and consists of ten bars top and bottom of $2\frac{1}{4}$ inches diameter placed in pairs; attached to these are 275 shear stirrups $1\frac{3}{4}$ inch by $\frac{1}{8}$ inch and 255 $1\frac{1}{2}$ inch by $\frac{1}{8}$ inch. Each of these girders weighs 38 tons. Those from north to south are merely thin slabs, designed to carry the floor slabs, but otherwise to form architectural beams.

The street and return fronts being constructed of stone, and it being impossible to include these in the first contract, the floors were supported by light pillars, which were afterwards built into the brick backing to the stonework. Reinforcing rods in floor slabs were left projecting in order to tie in the brick and stonework.

The upper floors were constructed similarly to those of the main block, but steel bars and expanded metal were used below the beams to give flat ceilings. The stairs in this part of the structure have treads, risers and paving to the landings of York stone.

Externally the concrete walls were covered with a thin rendering of cement, practically applied in one coat, as the skimming was not allowed to dry before being finished with a wooden float. This rendering was gauged in the proportion of 1 cement to 2 of sand. It would have been better with a larger proportion of sand. The tendency for hair cracks to appear seems to increase with the strength of the mixture. The projections had been roughly formed in concrete. The cornices, however, were cast in moulds (*in situ*), the faces of which had been sanded; the modillions were cast down with steel rods projecting from them for attachment. These were laid in the moulds and the cornices cast upon them.

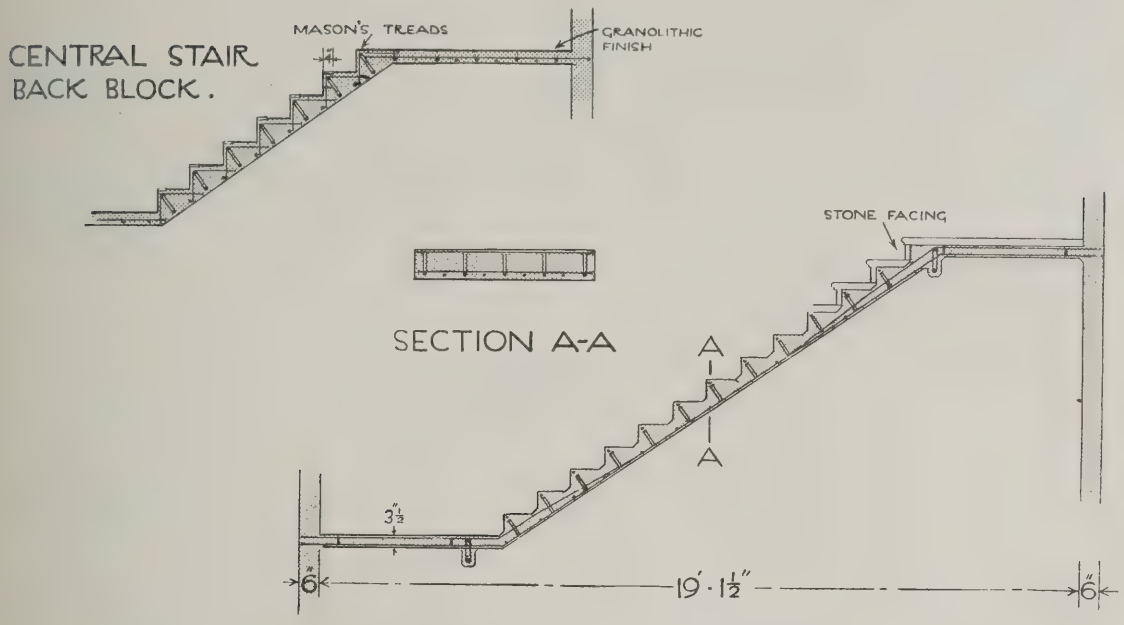
There are two subways under King Edward Street. That to the General Post Office north is intended for foot passengers, but the other was constructed for steam and other pipes, it being intended to supply steam and heat from the new boiler-house to all the Post Office buildings. The construction of these subways is shown on the diagram, but the dimensions are different. The larger one for passengers is 7 feet 6 inches wide and 8 feet high. The walls, roofs and floors are 9 inches thick, and the arrangement of the reinforcement is similar in disposition to that described for the chimney—viz. a double series of inner and outer bars, the diameters being $\frac{3}{4}$ inch and $\frac{1}{2}$ inch in this case. The floors of the subways are designed as slabs with upward pressure.

Below the floor in the basement a system of trenches has been constructed for the purpose of running cables for lighting and power to various points in the building. These had to be provided with very strong reinforced concrete covers to support cable drums which will pass over them or even be stored upon them. These drums in some cases weigh between four and five tons each.

The walls and floors being so thin, there was no opportunity to form chases or channels in the ordinary way, consequently special arrangements had to be made. Ducts for wires in connection with basement trenches are formed alongside each external column and extend to the full height of the building, while the horizontal wiring is carried in thin metal ducts fixed on the face of walls below window cills and in ordinary casing along beams. Around the internal columns in various positions reinforced concrete ducts are constructed for ventilating purposes.

Arrangements for fixing casings for wires, lifts, guides, &c., were carefully considered and many thousands of wood plugs left in the concrete as the work proceeded; but in many cases engineering requirements were afterwards altered, and from my experience on this building I have come to the conclusion that much expense would be avoided if such work were left until the engineering contractors appear on the scene and the necessary holes cut where required by them.

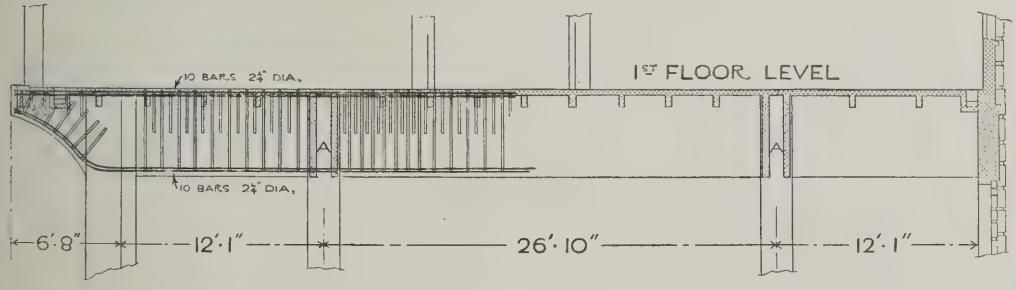
The reinforcement throughout is of round steel rods varying in size up to $2\frac{1}{4}$ inches diameter.

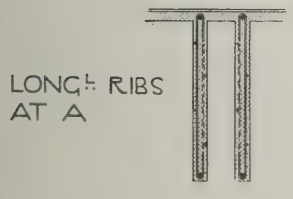


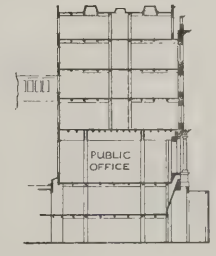
SECTION OF STAIRS FRONT BLOCK

FIG. 7.

ELEVATION OF GIRDERS OVER PUBLIC OFFICE







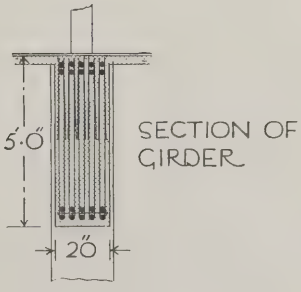


DIAGRAM SECTION OF
PUBLIC OFFICE BLOCK

FIG. 8.—PUBLIC OFFICE CONSTRUCTION.

The ends are split. All were rolled to the lengths required, no welding was permitted, and the bending was done cold. The stirrups are of hoop steel. The steel is mild, and was required not to fracture with a less tensile stress than twenty-eight tons or more than thirty-two tons per square inch, with contraction of area at plane of fracture not less than 40 per cent. and with an ultimate extension of 20 per cent. in 8 inches.

The cement used had to be superior to the usual British standard quality. It had to pass through sieves of 14,400 meshes per square inch, leaving only 10 per cent. residue ; while briquettes were to break with not less than 500 lbs. per square inch after seven days, 600 lbs. after fourteen

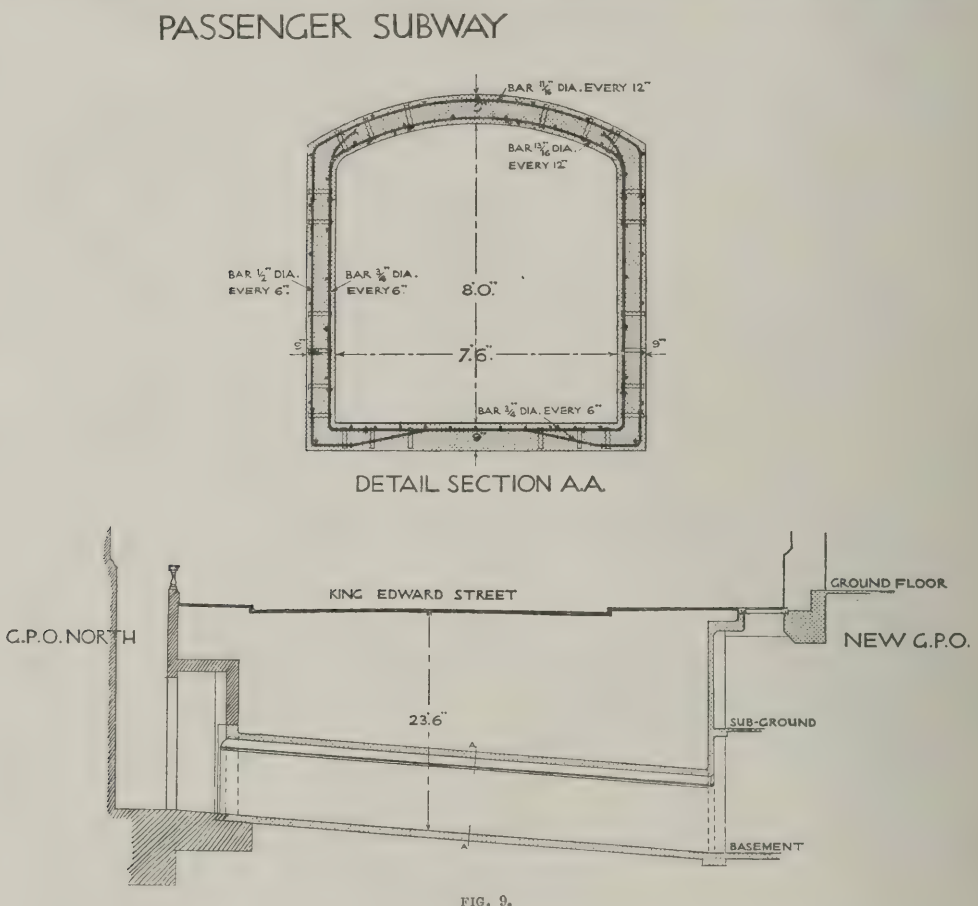


FIG. 9.

days, and 650 after twenty-eight days ; and when made with 1 to 3 of sand, 130 lbs. for seven days and 200 lbs. for twenty-eight days. The average results of the test were considerably higher than the specification demanded, being 587 lbs. and 702 lbs. for neat cement, and 196 lbs. and 276 lbs. with sand at seven and twenty-eight days respectively. There were also tests by boiling. The specific gravity was not to be less than 3·10. I find that although the specific gravity, residue on sieves, and expansion may be fairly regular, the setting time and the tensile strength may vary considerably. For instance, the same quality and manufacture may show a minimum and maximum time of setting of twenty-five minutes and one hour and a half, or it may go to four and a half and six hours, the tensile strength varying from 508 lbs. and 828 lbs. per square inch. I regard the test for expansion as most important, and there is no difficulty in getting a

cement without exceeding 3 mms. expansion, which is satisfactory. The cement had to be stored in water-tight sheds, but was not spread out.

Thames ballast was used throughout, crushed to pass through a $\frac{3}{4}$-inch mesh, but to be retained on an $\frac{1}{8}$-inch mesh, and a good sharp sand to pass $\frac{1}{8}$-inch mesh. The concrete was mixed in the proportion of 27 cubic feet of crushed ballast and $13\frac{1}{2}$ cubic feet of sand to 7 cwts. of cement in work below ground level, and 6 cwts. above. A mechanical mixer was used. No concrete that had begun to set was allowed to be used, and when thinning was necessary cement grout was insisted upon.

The timber shuttering had to be constructed in a solid and substantial manner, with close

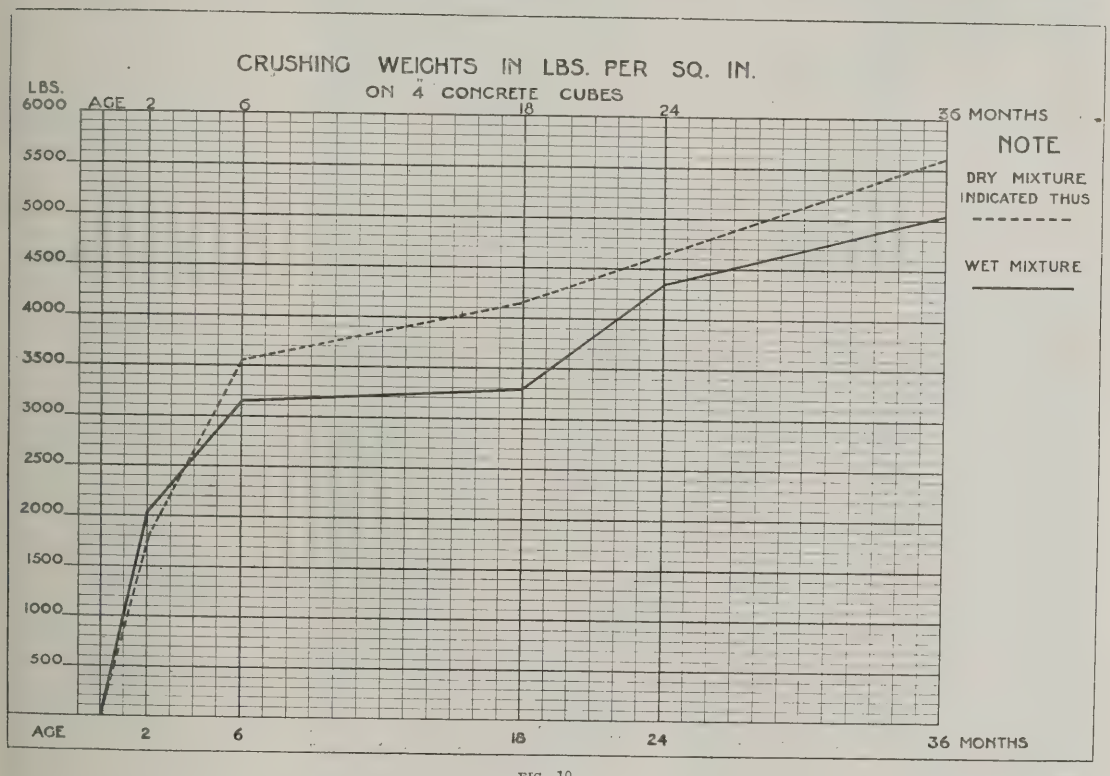


FIG. 10.

joints, thicknessed and generally left from the saw. It was strongly supported in order to ensure rigidity while the concrete was setting.

The ordinary time allowed to elapse before shuttering was removed was, in the case of slabs, sides of beams, walls, and columns, fourteen days ; ducts seven days ; and in the case of soffits of beams six weeks. In hot weather somewhat less time was allowed. Portions of the floor were tested with once and a half to twice the superload when the deflection was not to exceed $\frac{1}{600}$th of the span. The superload was allowed to remain for twelve hours, and after twenty-four hours there was to be no appreciable set. The effective depths of the secondary or floor beams vary from $\frac{1}{25}$th to $\frac{1}{27}$th of the spans, and the maximum deflection under a test load 50 per cent. in excess of the calculated load in no case exceeded $\frac{1}{1000}$th part of the span. The tests were therefore satisfactory, and in no case was there any permanent set. These tests do not, of course, give any results on columns.

A number of 4-inch cubes were made from the concrete as used with the 7 cwt. proportion

of cement. The results after two months, six months, eighteen months, two years, and three years are given in the diagram. Half were of a fairly dry mixture and half wet. Those of the dryer mixture crushed with 1,800 lbs. per square inch at two months and at 5,600 lbs. at three years ; while the blocks of wetter mixture crushed with 2,000 lbs. at two months and at 5,000 lbs. at three years. It will be seen therefore that while weaker to start with, the dryer mixture is the stronger in the long run, practically trebling in strength. I have still some blocks made at the same time which it is intended to test at five years.

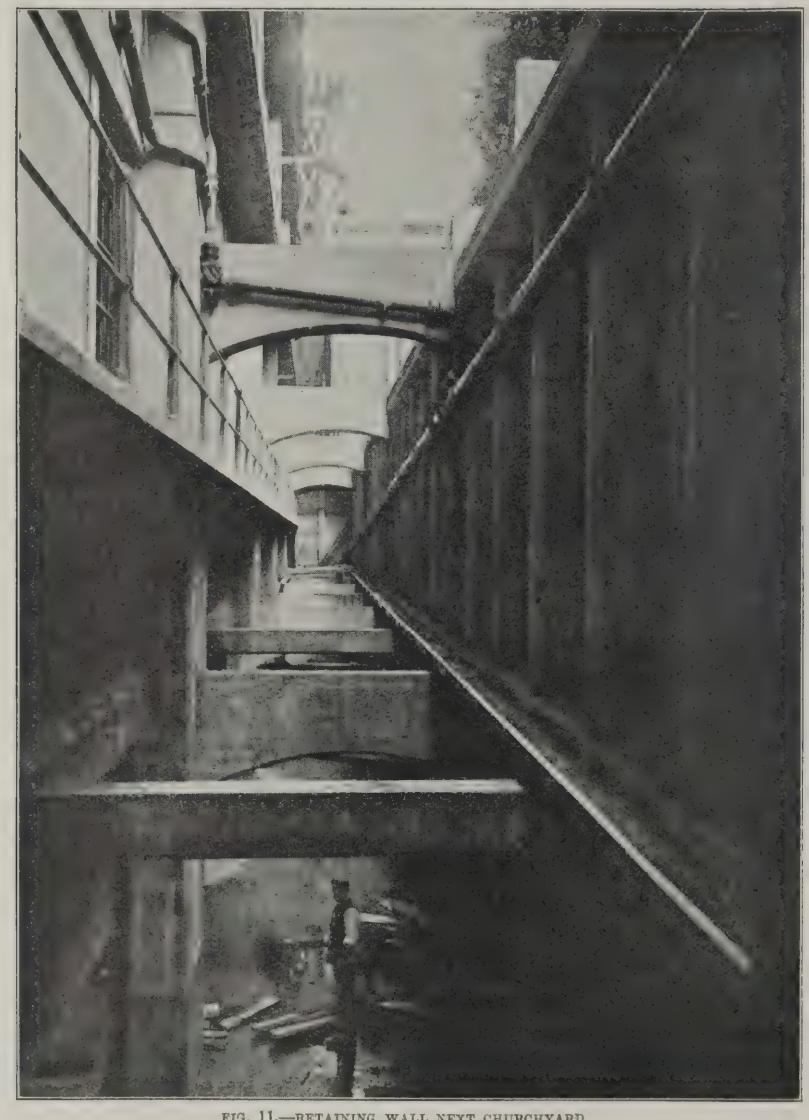


FIG. 11.—RETAINING WALL NEXT CHURCHYARD.

These results also show how very much stronger such buildings become by lapse of time, and the judicious provision of a small amount of additional steel is all that is needed to carry additional stories. As instances in this case it may be mentioned that additional 1,300-gallon tanks and a rifle range have been installed on the roof, a conveyor on the first floor, &c., without strengthening the structure. A few reinforced columns 6 feet long and 9 inches square were made and tested. The results are given in an appendix and the effects are shown in some of the photographs here reproduced.

The excavation was of considerable dimensions and some 30 feet deep. Digging was commenced at King Edward Street, as also was the building, and work progressed to the westward. Old London Wall ran through the site as shown on the plan. It was impossible to save it, except a portion under the western yard, without sacrificing a large part of the two lower floors. In addition there were the very heavy and solid foundations of Christ's Hospital, and even earlier buildings, and blasting had to be resorted to.

In order to construct the main beams and allow for the extension of the bars into the

adjoining beams, the excavations had to be of great width, and the sides were supported by timber piles and heavy timbering.

In order to ensure that the reinforcement is properly and accurately placed care is required, while supervision has to be ample, otherwise workmen are inclined to be careless and to save themselves trouble to the detriment of the work.

The work has proved reasonably watertight, nothing whatever has passed through the retaining walls which average $7\frac{1}{2}$ inches thick. There is no asphalte lining, but ordinary cement concrete, 8 to 1, several inches thick was used for filling up the space occupied by the false work at the back of the walls. Some trouble was, however, experienced in keeping the ducts dry where the building was on the clay. It was found that many levelling pegs were left in the bottom and these were removed so far as they were discovered, but water still came in. This difficulty has, however, been overcome by forming two sumps and taking a drain from them into the outcrop of the gravel.

The second contract consisted of the Portland stone and granite work, and the third contract the remainder of the builder's work, including internal brick divisions, joinery, plastering, tiling, sanitary work, painting, &c. These two contracts were also carried out by Messrs. Holloway Bros.

The partitions generally, including those between w.c.'s, are of $2\frac{1}{4}$ inches glazed both sides keyed bricks. The room partitions are divided into panels by channel and H section steel, and above 7 feet 4 inches high there are either steel glazed sashes or wirework. The whole of the sashes to the two lower floors and to the Sorting Office block, with a few exceptions, are of steel, and those to the Newgate Street windows and to the ground floor of the Public Office are of gun-metal. Woodwork has been eliminated as far as possible.

Experiments were made with various plastering materials for internal work, and as a result a rendering of Portland cement and sand, finished with Keene's, was used. This so far has proved quite satisfactory, and except for the ceilings in the offices above the Public Office, which have been distempered, the whole has been painted with enamel finish.

The wall tiling of glazed fireclay $\frac{3}{4}$ inch thick begins from 6 feet 9 inches above the floors throughout the Sorting Office block except to the basement, and the lavatories and staircases are tiled from floor to ceiling. The lavatory floors are laid with Ruabon tiles and the Public Office with white marble mosaic with bands of Irish green.

The floors generally are of maple blocks, for the cleaning off of which Messrs. Duffy used an electrically driven apparatus on the principle of a mowing machine, using glass paper of varying degrees of coarseness instead of knives. The result was very good and less of the wood was removed than is usually the case.

The interior of the Public Office and the entrance halls have been more lavishly treated than usual, this being the largest and the principal Public Office of the kingdom, while the building is, so far as is known, the largest letter-sorting office in the world, exceeding that in New York by some 90,000 feet sup.

The walls are lined with Arni Alto, a veined Italian marble approaching white, with panels, dado and door architraves of Irish green, while the caps, bases and key blocks to the window arches are of kupronised plaster. The counter front is also of Irish green marble with bronze panel mouldings and kupronised consoles.

The telegraph writing tables are constructed of bronze with plate glass writing slabs and panels, while the ordinary writing tables and the counter have bronze moulded edges. The woodwork generally is of wainscot, oiled and well rubbed.

There are few fireplaces, as the building is warmed generally by hot water steam calorifers, being placed in six positions in the basement. There is a fresh-air inlet to each radiator when

against an outside wall, and consequently the air passes into the building over the radiator. There are four boilers, each 30 feet by 7 feet 6 inches diameter, with automatic feeds, and the system was designed by the Commission's Chief Engineer.

In regard to ventilation there are extracting fans placed in chambers on the roof, each of the lower floors having separate fans.

The lifts, fourteen in number, are actuated by electricity, as is also the system of conveyors,

FIG. 12.—KING EDWARD STREET FRONT.

chiefly endless bands, which transfer bags and letters to and from various parts of the building. There is a complete installation of house telephones and bells. Metallic filament lamps are used throughout for lighting. The current required is generated at the Post Office Power Station, at Blackfriars, and there is a sub-station in the basement of the new building for reducing the current from 6,600 to 440 volts for power and 110 volts for lighting purposes. The electrical work was done under the direction of the Engineer-in-Chief to the Post Office.

The drainage is entirely of cast iron, suspended from the basement ceiling, and there is no drainage to the basement, which is below the sewer level. The water mains and heating pipes are similarly suspended.

It may be of interest to state that the floor area is 467,000 square feet, or about $10\frac{3}{4}$ acres, while the old Post Office has but 158,000 feet. The cubic content of the building is about 9,000,000 feet.

Having had experience of several methods of procedure in regard to reinforced concrete work, I can come to no other conclusion than that the method pursued in this case is by far the

FIG. 13.—NEWGATE STREET FRONT.

best. It is of the greatest possible advantage that the architect and the engineer should be able to work together, and this cannot be done when designs and tenders are called for. Besides, it is obvious that with such procedure if the engineer and his contractors are to hope for any success in competition for work, the steel and concrete must be cut down to the minimum, thus increasing the chances of failure. Much time is lost in the necessary examination and comparison of the designs submitted, and this, with vacant sites, means the loss of more or less money. Such a

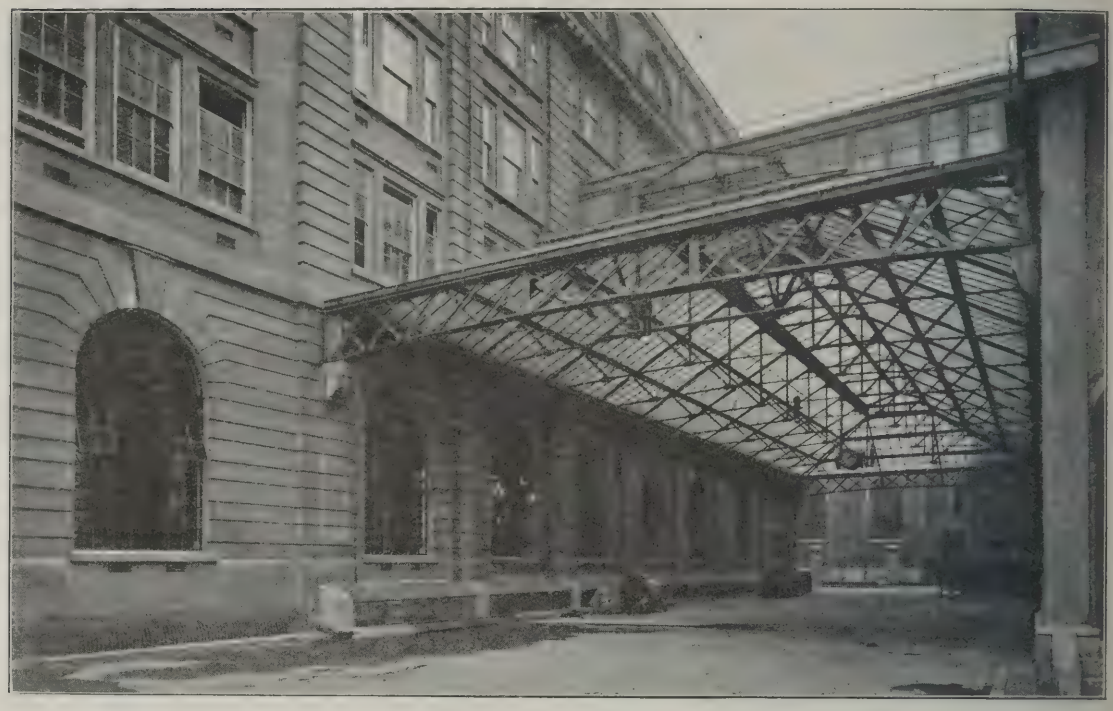


FIG. 14.—EAST LOADING YARD.

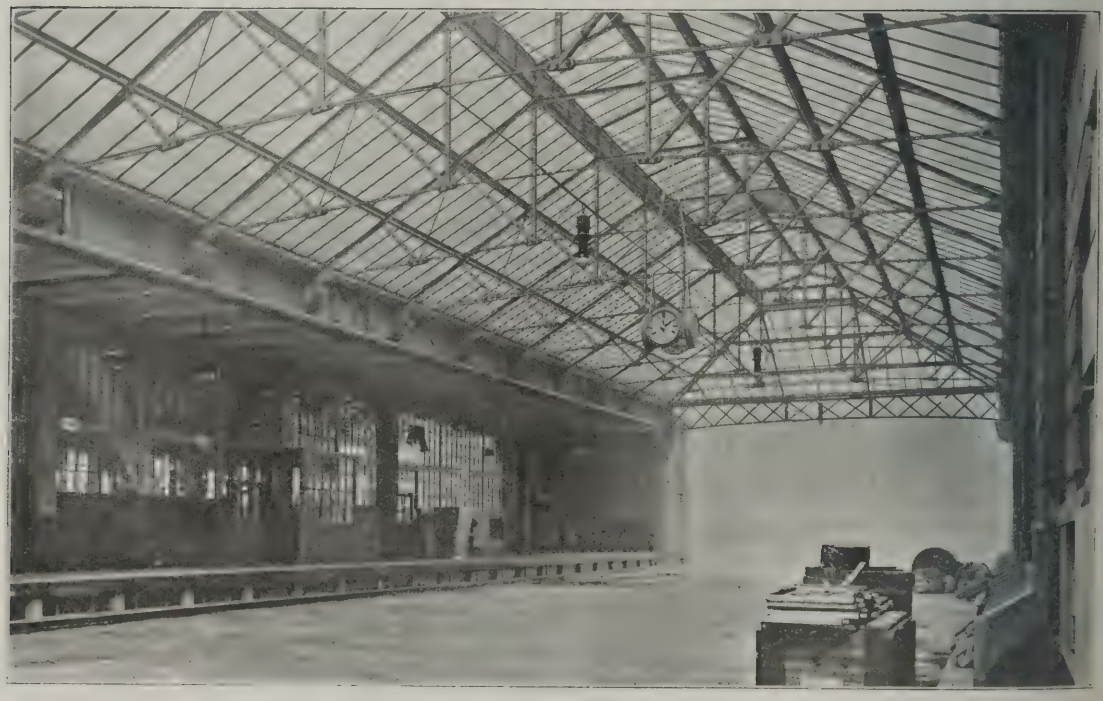


FIG. 15.—EAST LOADING YARD, SHOWING PLATFORM WITH CANTILEVERS OVER.

course is not taken with ordinary steel construction, and it is not usual to ask architects for designs and tenders which would practically amount to the same thing. Moreover, under such a system it is impossible to obtain a satisfactory schedule from which variations can be properly valued.

The time must come when reinforced concrete will be incorporated in the ordinary bills of quantities and dealt with in the same way as any other part of the construction, and there are now any number of contractors quite able and willing to undertake and to carry out such works in a satisfactory manner.

With regard to materials, cement can now be regularly obtained to take a stress of 20 per cent.

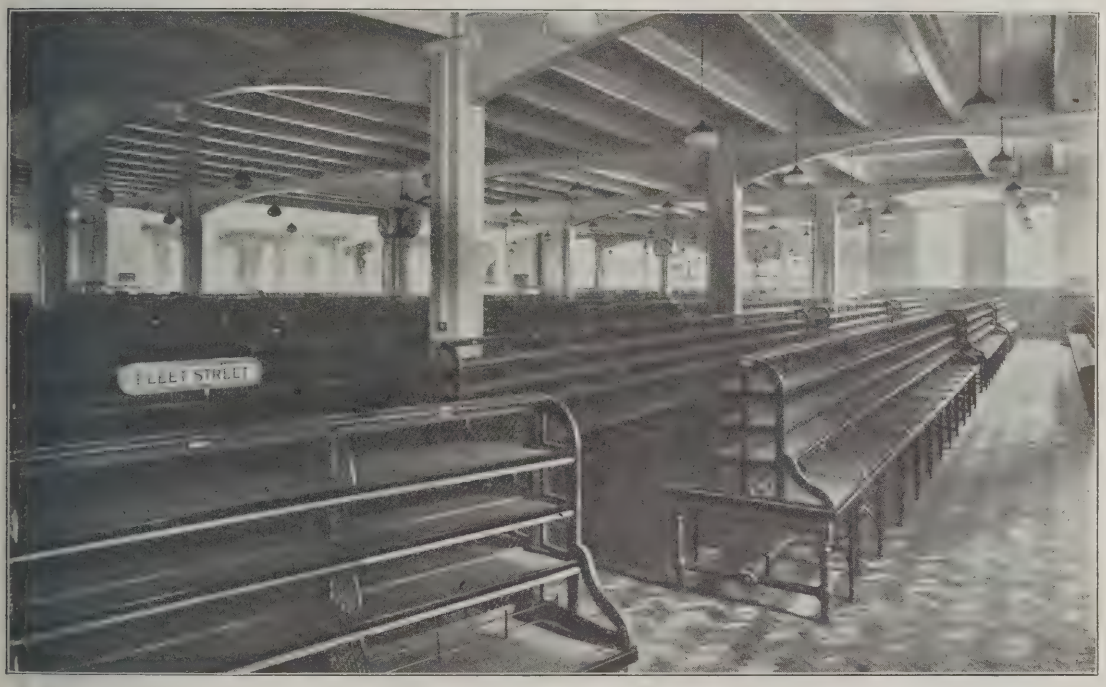


FIG. 16.—SORTING OFFICE.

greater than the British standard, and I cannot see why this should not be taken into consideration. Such cement has been used throughout this building and in the test blocks. This is, of course, of considerable advantage when exported.

The construction of the false work should be of a substantial character so that no movement takes place under ramming, otherwise concrete partially set may be disturbed.

In regard to expansion and contraction, these were only observed when the building was considerably advanced, but without windows and internal warmth, and therefore entirely exposed to the outside temperature. In January 1909 there was a severe frost and contraction was evident at the eastern end of the bridge and in the sub-ground floor at the rear of the front building, but on the return of warmer weather the fractures closed and have not caused any trouble since the building has had the windows in and been otherwise protected. No special provision was made for expansion and contraction, and no movement has been observed in the area of floors.

Supervision is of the first importance, and this is necessary during the whole time that concrete is being mixed and deposited, and before the latter is done it is absolutely necessary to see

that wood shavings, sawdust, &c., are removed from the false work, and hosing is very useful for this purpose. The positions of the steel work must be observed, as any loose parts may get out of position; column links are particularly open to this, and such loose parts should be tied together with binding wire. To ensure so far as possible the accurate carrying out of the work in this case, three clerks of works were employed during the greater part of the time.

FIG. 17.—ENTRANCE LOBBY.

APPENDIX TO THE FOREGOING PAPER.

RESULTS OF EXPERIMENTS TO ASCERTAIN THE RESISTANCE TO CRUSHING, UNDER A GRADUALLY INCREASED LOAD, OF PLAIN AND REINFORCED CONCRETE COLUMNS.

Test Number	Age in Months	Mixture	Reinforcement.	Length in Inches	Base Area in Inches.	Ultimate Stress			Remarks
						Total in Pounds	Lbs. per Sq. Inch.	Tons per Sq. Foot	
2,834	3	Concrete mixed fairly dry in following proportions:— 1 yard Thames ballast to pass $\frac{3}{4}$-inch mesh. $\frac{1}{2}$ „ „ sand 6 cwt. of Portland cement. $\frac{1}{8}$ „ „ (Mixed by machine.)	None	72·40	81·09	136,700	1,686	108·4	Crushed about 2 feet from end
4,637	4		Four 1 inch diameter bars spaced at 5-inch centres with $\frac{3}{16}$-inch dia. links 7 inches apart	72·70	81·09	221,400	2,730	175·6	Visibly cracking at 218,600 lbs.
4,638	„		„ „ „ „	72·70	81·81	211,700	2,588	166·4	„ „ 211,700 „
4,639	„		„ „ 14 inches „	73·30	82·17	203,600	2,478	159·4	„ „ 198,700 „
4,640	„		„ „ „	73·08	81·45	190,800	2,343	150·7	„ „ 190,800 „
4,641	„		„ „ spaced at random	72·72	81·18	194,600	2,397	154·1	„ „ 194,600 „
4,642	„		„ „ „ „	73·11	80·55	192,200	2,386	153·4	„ „ 192,200 „
1,010	3		„ „ { 3 inches apart at ends $6\frac{1}{2}$ „ „ centre }	72·58	81·09	224,800	2,772	178·3	„ „ 198,300 „
1,011	„		„ „ „ „ „	72·56	81·45	240,800	2,956	190·1	„ „ 235,700 „
1,012	„		„ „ 3 inches apart throughout	72·66	81·64	216,600	2,686	172·7	„ „ 200,000 „
1,013	„		„ „ „ „ „	72·60	81·81	212,200	2,594	166·8	„ „ 196,400 „
1,014	„		Expanded metal binding, $1\frac{1}{2}$-inch mesh, $\frac{1}{8} \times \frac{1}{8}$ strands	72·78	81·90	170,200	2,078	133·6	„ „ 170,200 „
1,015	„		„ „ „ „ „	72·68	81·90	163,700	1,999	128·6	„ „ 163,700 „

The ends of columns were prepared true for testing. All the reinforced columns failed by crushing between 1 and 2 feet from the top end.

The tests were carried out by Messrs. David Kirkaldy & Son at 99 Southwark Street, E.C.

DISCUSSION OF SIR HENRY TANNER'S PAPER.

Mr. Leonard Stokes, *President*, in the Chair.

Sir MATTHEW NATHAN, G.C.M.G. : I have been entrusted with the pleasing task of proposing a vote of thanks to Sir Henry Tanner for his interesting lecture. This honour has been conferred upon me, I suppose, as a postal employé, the lecture having dealt entirely with a postal building. For a very long time Sir Henry has been connected with the Post Office. It is, I believe, some forty years since he joined the Office of Works, and twenty-five since his first great postal building was constructed at York. For twelve years as Principal Architect of the Office of Works he has prepared the designs for every Post Office building of importance. I am told by those who have been most intimately associated with him in the Post Office that the leading characteristic of his relations with that Department has been his willingness to meet its requirements. He has realised always that a building should be designed for the work for which it is intended, and not the work adjusted so as to fit into the building. The result is that he is a first-rate planner. His excellent planning is evident in the building which is occupied by the Postmaster-General and by the Secretary's staff, the building called The General Post Office North, which lies between Sir Robert Smirke's St. Martin's-le-Grand structure and Sir Henry Tanner's King Edward building. It is also evident in the Mount Pleasant Sorting Office, where the provincial letters are dealt with, and in the big block which was erected a few years ago in West Kensington for the Savings Bank ; but much the most important of all Sir Henry's works is the building just completed, which has been so fully described this evening. The great feature in the design of the building is the boldness with which Sir Henry Tanner has applied a comparatively new system, the Hennebique system of reinforced concrete, to a bigger structure than any to which it had been previously applied, at any rate in this country. The details of construction given in the Paper must be of great interest to the architects present as they are to me as an old engineer. They recall to me an experience of many years ago. In the year 1888, when I was a subaltern, and assistant-engineer in the Military Works Department in India, I was called upon to design and construct a heavy gun battery near the mouth of the Rangoon River on very treacherous foundations. I arranged for the heavy magazines to stand on a raft of concrete, and as it was essential that there should be no cracking, no settlement of any part of these foundations, it occurred to me that it might be useful to embed in the concrete raft a large number of old contractor's rails which were available. I carried out this idea by placing the rails at fairly close intervals in a double layer crossing each other at right angles. It is a far cry from this rudimentary reinforced concrete of twenty-two years ago to the elaborate and carefully planned arrangement of rods, bars, and stirrups described by Sir Henry Tanner. He has accomplished the latest achievement of architectural engineering. We in the Post Office trust that that achievement will be followed by many other buildings designed by Sir Henry Tanner for the Post Office, and that they will all be as successful as the King Edward Building.

Mr. H. D. SEARLES-WOOD [*F.*] : It gives me great pleasure to second this vote of thanks. In addition to the thanks which we owe Sir Henry Tanner for this extremely interesting paper, the profession at large, I think, is very much indebted to him for the courteous way in which he has allowed this building to be inspected by architects and others during its progress. It has been one of the most educative works done in the way of construction for some years, and the visits we have been able to pay to the building have been very interesting to the profession. One point Sir Henry touched on seemed to me of special interest, that is with regard to the treatment of the outside of the concrete. I understood him to say that that was done while the concrete was green ; but if my memory serves me correctly the external rendering was done after the concrete had been up about two years. Rather against the advice of the plasterers Sir Henry had the courage of his opinion, and the result has been perfectly satisfactory.

Professor BERESFORD PITE [*F.*] : I am quite sure that Sir Henry Tanner to-night has justified that confidence in his leadership and ability which the profession has felt with regard to works undertaken by His Majesty's Office of Works. We, as a body, have felt that the architectural interests of the nation were in satisfactory hands ; and while we may have derived some amusement from the liberties Sir Henry is able to take with the Building Acts in the entire freedom he enjoys from the distresses which attend those of us who have to apply to the County Council for permission to exercise our various eccentricities in the way of building, we have never felt any doubt as to his ultimate success. I cannot speak of any alarm with which that amazing retaining wall was regarded when it was first put in, but the wall still retains, and Sir Henry Tanner assures us this evening, and we know it perfectly well, that it is safe. To have had the opportunity of conducting an experiment of this sort and bringing it to success is indeed the crowning work of a great professional career, and architects of another age and generation will look back to this building as a starting-

point in construction which will not be forgotten, and in connection with which Sir Henry Tanner's reputation will be finally established. With regard to one technical point, I should like to ask for a little comfort: are not the possibilities of expansion of a homogeneous building somewhat serious? Sir Henry Tanner told us of one spot where during a severe frost last year contraction was noticed, and he said that subsequently the trouble had not reappeared. I remember some years ago, when I was engaged with Mr. Mansergh over a small part of the Birmingham Waterworks, he amazed me rather in my thoughtlessness by insisting that London Bridge expanded under the summer sun; that in the nature of things it was necessary that the bridge must, and did, expand; and he pointed out to me how expansion was provided for in the copings on the walls. I imagine that if Sir Henry Tanner's roof is homogeneous, with the summer sun upon it some considerable amount of expansion must be created between east and west. And this reminds me of a little joke that used to be perpetrated at the expense of a distinguished member of our Council, who assured us that the roof of a celebrated warehouse of his in the city expanded annually to the great advantage of the freeholder! If expansion takes place regularly and elastically, without splitting a building, that is of course the whole point of interest; but it is a matter of great importance if we are considering the advisability of employing the ferro-concrete system in a hotter climate than our own. The whole question of the expansion of this reinforced concrete building, and the extent of the expansion, and the way it will have to be adjusted and provided for, is a subject on which we shall want some light. This gigantic letter box has comparatively little architectural interest apart from its structure; its complete adaptation to its service has been the point wisely considered and insisted upon; but it does not stand, as Sir Robert Smirke's building stands, as the last expression of a great æsthetic movement. Sir Henry Tanner has not been bothered with over much entasis and refinement of outline; these elements of architectural interest have not entered into his design, and I do not know that they need, or that we regret that they are not there. They would certainly have an aspect of artificiality if they were. But at the same time we should regret if the City is to be deprived of the solemn and spacious Greek charm of the delightful old front in St. Martin's-le-Grand. One would almost hope that it might be shorn of its modern attics, reduced to its original proportions and handed over to us—shall I suggest, for an architectural purpose, if for no other? Still, I suppose it represents a different ideal. It represents an architectural training that will give us pause for thought if the occasion sometimes demands something more than ferro-concrete construction, something more than suitable adaptation to an elaborate organisation—demands a high artistic ideal. It will not be wise for us to overlook the necessity of cultivating, alongside of such success as Sir Henry Tanner has achieved in the constructional art and in planning, the artistic ideal, possibly founded on antiquarian study, or upon some development of architecture with which we are already acquainted, and which this building has afforded no sort of opportunity for. I want very cordially to support the congratulations to Sir Henry Tanner and to the Institute on his Paper this evening.

Sir ASTON WEBB, C.B., R.A. [*F.*], rising at the invitation of the President, said: I am afraid I have not much to say except to congratulate Sir Henry Tanner on this building, which I think is a perfect revelation, indicating, as it were, a changing of the ways. If we are to carry out what Sir Henry Tanner has carried out, we must revolutionise all our ideas of building construction up to the present time. It is a wonderful building, and we are greatly indebted to Sir Henry Tanner for giving us all the information that he has done about it. I hope the next time he carries out a building of this sort he will be able to carry the construction through to the street, and give us pause for still further wonder. That is the difficulty we must all feel in buildings of this sort—how we are to treat them when they come through to the street. It is obvious that finally that must happen, and that they must be treated along the street frontage in the same way as they are in the general body of the building. That it can be done I feel sure. I feel sorry I am not a young man—or rather I am not sure that I am not glad that I am not a young man to have to do it. I hope Sir Henry Tanner will do it before he lays down his wand of office, and will show us how this concrete building can be continued, and honestly given architectural effect. We have seen in Paris very successful efforts, and I have no doubt it can be done here. It should indeed be a great incentive to young men to know that there is this modern problem to be solved of erecting buildings in this extraordinary manner, and yet giving them that architectural character of solidity and permanence without which no architecture can be satisfactory to the eye either of the architect or of anyone else. How it is to be done I do not know; but I have the greatest pleasure in supporting the vote of thanks to Sir Henry Tanner for his most able and clear paper, which I am sure will prove to be one of the epoch-making papers of the Institute.

Mr. MAX CLARKE [*F.*]: I should like to add my modicum of praise to Sir Henry Tanner for bringing before us this the greatest object-lesson in ferro-concrete work which there has been in the United Kingdom, and I think it particularly useful at the present time, when the Regulations which are to govern those who wish to build in ferro-concrete are under consideration. Of course, Sir Henry

Tanner, having a free hand, was able to do a great many things which I do not anticipate you gentlemen will be able to do when you come to erect a building which is not for Government purposes. If you were to compare what Sir Henry Tanner has done with what the County Council will require you to do, you will see how very great the difference is. I have been somewhat interested in trying to ascertain what the cost of this building was, and Sir Henry Tanner will pardon me—I have told him I was going to refer to the point—when I observe that he puts down for the concrete building itself $2\frac{1}{4}d.$ per cube foot. I have since ascertained from him that that is the absolute cost of the ferro-concrete work by itself, and nothing more. Then I note that the building would have cost a little more if it had been built in the ordinary manner; but, so far as I can make out, when I come to make calculations, the saving per foot cube is so small that it would be hard to calculate how little it would be per foot cube more if done in steel than in reinforced concrete. And then it appears from Sir Henry Tanner's paper that the total cost of the building—I think it is the total cost—is $7\frac{7}{8}d.$ per cube foot altogether. If that is the case it is a most remarkably cheap building. That of course is also worth consideration. You must remember that to have the audacity to calculate the superimposed load of 1 cwt. per foot super on a floor of that kind is not what we are accustomed to do at present, and the best thing we can do is to follow Sir Henry Tanner's example, and in our next building not to pay any attention to the County Council Regulations, but to ignore them! When you come to the first floor do not have a superimposed load of more than $\frac{3}{4}$ cwt. The whole thing is absolutely new. You must forget everything you have learnt all your life, and begin quite afresh—begin with $\frac{3}{4}$ cwt. per super foot, and that is amply sufficient. The Post Office is there to prove it, and will be there, I am afraid, for a long time in spite of all the Regulations. There are one or two points I am curious about, and perhaps Sir Henry Tanner can tell us something about them. Why does he adopt a standard with regard to cement which is different from the British Standard Specification? The Standard Specification states that the residue on a sieve $76 \times 76 = 5776$ meshes per square inch shall not exceed 3 per cent., and the residue on a sieve $180 \times 180 = 32{,}400$ meshes to the square inch shall not exceed $22\frac{1}{2}$ per cent. I see that Sir Henry Tanner has taken a medium sieve—one of 14,400 meshes per square inch, with a residue not exceeding 10 per cent. Is this the requirement of the ferro-concrete specialist, or a standard made for his own particular work? Is cement which, say, leaves exactly 10 per cent. residue on a 14,400 sieve better than cement which leaves exactly $22\frac{1}{2}$ per cent. on a 32,400 sieve? Because, you know, an ordinary architect is bound to take what has been agreed to be a standard and adopt it as being the best in the opinion of people who have devoted much time and attention to the subject, and most of us who use cement at all take the Standard Specification as being the best that can be agreed upon at the present time. But here is the largest building—I do not know whether it is the largest in the United Kingdom, but certainly it is the largest in London—built quite outside the Standard Specification, and having no reference to it. I should like to have some explanation as to that. Then I should like to know whether there was any stipulation with regard to the concrete—whether its state when put in was what is called in ferro-concrete work "wet" or "dry." Of course it is quite a simple process to put in what is called a dry mixture where the rods are not very close together, but it becomes difficult when the rods are close together, and I am curious to know whether this mixture was supposed to be what is called wet or dry. Then it only remains to call attention to something Sir Henry Tanner said which may not have impressed you sufficiently—that is as to the extraordinary amount of care which should be taken to prevent chips and shavings and pieces of wood getting into the columns. I think it is a pretty well-known fact now that the Kodak Building in America fell down simply and solely because they allowed a certain amount of wood to get into one or two of the columns. I think Sir Henry Tanner's estimate as to the supervision which is necessary might just be multiplied by ten. I saw some ferro-concrete work being done in Munich some few years ago, and so far as I could see it was being put in anyhow; certainly the stirrups were not kept in position, and it did not appear to me that the rods were in position, and the workmen were treating the work in about the most indifferent manner I have ever seen. It was a large public building of the Whiteley class—very much larger than Whiteley's—but it is still standing, otherwise we should have heard about it; so that perhaps it does not make so much difference. But, on the other hand, we may not all have the luck that some of these people have. There is a considerable amount of luck in ferro-concrete work. If you do not have supervision you want luck, and I congratulate Sir Henry Tanner on having both the supervision and the luck.

MR. J. ERNEST FRANCK [*A.*]: I should like to join in the congratulations to Sir Henry Tanner for giving us this magnificent building, which is not only the largest Post Office in the world but also the largest building that has been carried out in ferro-concrete. I also wish to congratulate him on his pluck and his skill in carrying the building through to such a successful conclusion. There are one or two things I should like to ask information upon. First, with regard to the stonework. Of course, as Sir Henry Tanner mentioned, it was tied in at the floor levels with the rods in the floors; but I should like

to know if he carried the walls from the basement level, or whether he took them right down with separate foundations. Then also with regard to the floors themselves, he mentioned that in one part the floors were very thin, and in another part of the paper he said that on certain floors there were false ceilings. I should like to ask whether he found that the sound was transmitted through the floors. I have not found it so in my own practice, but I did not know whether he had over the large areas covered in the new Post Office. Then with regard to Mr. Max Clarke's remarks on the cement and the British standard quantity, I think that Sir Henry Tanner's specification is, as he says, superior to the usual British standard quantity except on one point, and there he has dropped the standard, although I see that the cement, as shown by the test, was considerably higher than the British standard specification. There is one point there with regard to the fineness of the cement which is of the utmost importance in reference to ferro-concrete work. It is quite easy now to get a cement on the market that will pass through a 180×180 sieve, leaving only 5 per cent. of residue, and sometimes not that amount. Then I also noticed that Sir Henry Tanner mentioned that he found a considerable difference in the minimum and maximum time of setting. That, I think, can be obviated now, and it is, in some cements where you hydrate them at the time of grinding; and if the specification gives a certain time you can have a cement which will very closely approximate to that. I think that should also follow in the test for the tensile strength, although there, again, I think the more important factor is the crushing test. You are not going to take into account in designing your structure any tensile strength in the cement, and therefore I think the more important thing there is the crushing strength, not of the cement and sand, but of the concrete. Then another very important thing indeed which I noticed Sir Henry Tanner emphasised, is the question of expansion. That has been mentioned. But I should think a building like this is designed so that there will be no fear of expansion of the topmost story or the roof. Certainly Sir Henry Tanner gives a 3-millimetre test, and I presume he means after the 24 hours' aëration by the 3 millimetres; and that of course can be reduced lower still now with a cement that is easily obtainable on the market. Mr. Max Clarke also referred to the great care that must be observed in carrying out a building in reinforced concrete. That necessarily has to be observed, and certainly one of the things that wants to be washed out, and can be easily washed out with a hose, is any sawdust or shavings which are blown down as you carry on the false work up above the real work. Mr. Max Clarke also mentioned about the fall of the Kodak building, but he must remember that the fall there was caused by large blocks of wood left in, not sawdust or shavings. I should like to support the vote of thanks to Sir Henry Tanner. I know of course that he has put no stone fronts to the back elevations, and I should hope perhaps that in the next building of this class he will bring the reinforced concrete right through and give us a front elevation in reinforced concrete. It is a material that you can construct with, and therefore it should be one in which a design that is æsthetically sound can be carried out just as much as in anything else. I think it would have been very fine if he had given us that; it would have been, perhaps much more than it is now, almost an epoch-making building if that had been done in the present case.

Mr. C. S. MEIK: I have had the privilege of working with Sir Henry Tanner on reinforced concrete, and have great pleasure therefore in echoing what the previous speakers have said about this building. Sir Henry Tanner has been in the fortunate position of having a Board who have carried out his designs and wishes, and he has accordingly produced one of the finest buildings in London. It is to be hoped that the members of this Institute will have similar opportunities afforded them when the County Council Regulations come into force. As an engineer I must congratulate the Institute on the Report on the subject of Reinforced Concrete which they issued some years ago, and which has been of very great assistance to all engineers. These formulæ and rules can, it is true, all be obtained in text-books, but this Institute has formulated them into a handy portable document that can be taken about and referred to, and it has proved of the greatest advantage. I notice that the system adopted has been that of M. Hennebique, and it also refers to my old friend M. Mouchel. It is a source of special regret to myself, and no doubt to other members, that M. Mouchel has passed away; he was an eminent engineer, and it is greatly due to his efforts that reinforced concrete has made such strides in this country. I am sorry he is not here to see how successfully his system has been used by Sir Henry Tanner. I should like to make one or two observations with regard to the theory and practice of reinforced concrete. Sir Henry Tanner mentioned the factor of safety of the building as being 4 to 1. That is not the case. There is no doubt that 4 to 1 is the factor of safety in the steel, and so it is in the concrete possibly, taken separately; but taking the two combined together, I do not think the factor of safety is 4 to 1—the reason being that as soon as the steel passes its yield point, which you may take, for example, as 15 tons, the steel stretches, and the beam collapses owing to the fact that you are not dealing with a homogeneous structure. So that you may say that the factor of safety in any reinforced-concrete beam is very little more than 2 to 1, whereas in the component parts it may be 4 to 1 or even more. Then, again, the test block that was mentioned by Sir

Henry Tanner of 4 inches cube is, I think, too small: you cannot get a reliable test of concrete unless you have a cube of 6 inches. I should like very much to get some of them tested at 12 inches, but we have to be satisfied at 6 inches, and no test should be made under this size. Mr. Max Clarke made some remarks about the necessity of testing the cement for its compressive strength more than its tensile strength, and there is a great deal in that. Tensile tests of cement, however, are some measure of its ultimate strength, and are good enough for the cement; but I quite agree with him in what he said about concrete—that you ought to have tests of the concrete made from time to time, because it is quite possible that when you are making your building of reinforced concrete you may be under the impression that you are getting concrete to the standard of 3,000 lbs. to the square inch, but you have no guarantee that you are getting it. You have a guarantee with steel, because you know that steel does not vary more than about 15 per cent. in its ultimate strength if made to British standard specification; but with concrete you do not know what you are getting. As an example of that, I may say that I myself have had within the last two or three years test blocks of concrete at different works I have had under my supervision that have had a variation of over 300 per cent. in strength, made in exactly the same way and to exactly the same specification, the whole of the difference being due to the method and the care used in its manufacture. The concrete I am referring to varied in crushing strength from 0·53 ton per square inch, to 1·64 ton, or from about 1,200 to 3,700 lbs. per square inch, made in the same proportion with practically the same materials, the only difference being that more care was exercised in the mixture and the way the material was put into the work. That bears out what previous speakers have said of the necessity of better supervision and better work as regards concrete. We are too much accustomed in this country to regard concrete as something that will be shovelled up and put into a barrow and dumped into the foundations. One other point: Sir Henry Tanner referred to rendering the face with neat cement, and he said that in the mixture of cement which he mentioned he thought there was hardly enough sand to guard against risk of expansion and contraction. On that I am quite at one with him. I experienced some difficulty a little time ago in filling up holes that had been cut out of reinforced-concrete beams in order to get out rust. The rust on the surface led one to believe that the stirrups were being attacked, so I had these holes cut out and filled up with neat cement, and the result was worse than the remedy: the water got in rather worse than before, and I found it was due to the use of pure cement; by using a mixture of 2 or 3 to 1 the holes have filled up and have never given any trouble since—the reason of course being that the pure cement contracted much more than a mixture of sand and cement in proper proportions.

PROFESSOR HENRY ADAMS, M.Inst.C.E.: This Paper appears to me to be a subject more for congratulation than for criticism—first that the author of it should have had the opportunity to construct so large a building; next that he should have had the wisdom to employ reinforced concrete; and finally that he should have had the skill to carry it out to a successful issue. There are one or two points in the Paper that struck me rather forcibly. First of all the structure was erected at a cost of about 2¼*d.* per foot cube. That seemed so much below what one would expect that I was led to look into it a little to see how it happened, and, omitting the Portland stone front of course, we have the reinforced building behind but without a front to it, so that it is not an enclosed building, and the 2¼*d.* in that way would not apply, I take it, to an enclosed building of that material. Then, again, the retaining walls are only 7 or 8 inches thick, instead of 7 or 8 feet thick as they would have to be if of brickwork. That shows in a remarkable way the advan tages of this material that have been obtained in the present case by strutting at the ground level and at the basement level, so that the retaining wall is supported top and bottom, and is only equivalent to a piece of floor slab. Then the Portland cement, I notice, was above the British standard specification, and that would account for what would otherwise be another very remarkable point—the thinness of the floor slabs, which are only 3½ inches thick; by having an extra strong material they were able to get a thinner floor. Then the main beams across the ground floor and the first floor, I think, were arched, but I noticed that in the last photograph shown on the screen the end arched beam had no abutment except against the pillars. That is the only flaw I have been able to detect in the Paper; that puts a bending stress upon the pillar, but possibly not to any serious extent. With regard to the factor of safety mentioned by the last speaker, of course it is well known that when you speak of a factor of safety of 4 to 1 you do not really mean that you are only working to one-fourth of the capability of the structure. The difference between the working load and what you calculate as the ultimate load is the margin to cover known and unknown contingencies, and one of the known contingencies in the case of steel is the fact of the yield point occurring at about half the ultimate strength. That is a contingency common to many other structures besides reinforced concrete; therefore I do not look upon it as any great detriment in the use of this material. We know that there is a certain percentage of reinforcement that is more economical than any other, but there are circumstances in which you vary your percen-

tage without considering the precise limit of economy. I fully agree with the author as to the disadvantages of getting competitive designs for such work: they must necessarily result in producing the smallest margin of safety, and of course they must give the architect a considerable amount of trouble in making his choice between the designs. Reinforced concrete, I think I may say, has made more headway in engineering structures than in ordinary buildings in architectural work; but when architects are able to give their attention to this material I have no doubt we shall see a very much more general use of it in construction. It is an unpromising material to deal with on the face of it, and I daresay architects are not attracted towards it, but engineers, I am sure, will be very grateful when architects do give their attention to it. It is a legitimate material to build with, and therefore it is one that is entitled to have the consideration of architects. The combination of a stone front with reinforced construction at the back is not, I think, one likely to be permanently adopted, and perhaps the sooner we get another big Post Office the sooner we shall arrive at a single material throughout the whole structure.

Mr. H. HEATHCOTE STATHAM [*F.*]: I have spent a great part of this afternoon in going over this remarkable building to my very great personal interest, and among other things I noticed was that part of the building towards the loading yard is treated (as we should call it in ordinary terms) architecturally, in the concrete; there is the cornice and modillions and everything just as it might have been in a stone front. But I think if we come to anything like architectural treatment of the exterior of a building of that kind we shall have to give up stone forms and evolve something that will express the nature of the material better. Another point on which I want a little information has been mentioned by Professor Adams, when he said that one of the arched beams had no abutment. I should like to know whether those beams in the form of arches are really exercising any thrust like an arch. Are they really acting constructionally in the same way as arches act, or is there any constructive advantage in making them in that form? I feel some doubt about it. I have no doubt they look better, but I have some doubt whether the arch form really adds anything to the construction. Perhaps Sir Henry Tanner will tell us.

Mr. J. S. E. DE VESIAN, M.Inst.C.E.: I must thank Sir Henry Tanner for his very kind reference to my old chief, M. Mouchel. I have very little to add to his most able description of the building. I myself have had but little to do with the details of the work because the work was started twelve months before my dear old chief's death, and I only feel sorry he is not here to speak on the subject. Of course in a building such as this it is most desirable to have a contractor who understands the work and who is an honest man, and also to have most careful supervision of that contractor's men by clerks-of-the-works. In this case I think we had great good fortune in both those respects. We had a contractor who did his best to give us a good job, and we had clerks-of-the-works who looked thoroughly after the workmen and gave very good supervision indeed to the building. The question of a large flat roof such as we have on this building, and expansion with changes of temperature, has been raised. In every structure of every class of material, expansion and contraction must take place with changes of temperature. In a framed building, a monolithic building such as a reinforced concrete structure is, this expansion and contraction takes place as it were within itself—it is bound to take place—but no evil results will occur and no sign of it will show. In the case of large warehouses in Manchester that were constructed some eight years ago by M. Mouchel, with a flat roof of the length of 2,250 feet, no trouble from expansion took place. That expansion does take place has been shown in some 3-inch panel walls, where some of the panels have cracked, but that has not injured the strength of the building in any way. This material of course has been used by M. Hennebique in tropical climates and all over the world, and in a framed structure of reinforced concrete you need have no fear of trouble arising from changes of temperature. The arched beams that were mentioned just now are in arch form, but they have tension members, and they really throw no thrust upon the columns, so that though it seems anomalous to have no abutments on the last column, there is no thrust upon the column—they act as continuous beams. As regards the specification for cement, I think Sir Henry Tanner rather took M. Mouchel's views as to what he had been using before for this class of work, and allowed himself to be guided in that respect by him; that is why it varied slightly from the British standard specification, which specification is of course excellent but is made necessarily to suit all classes of work. Though it may not be quite as good as is required for the highest class of work, it is still a great deal too good for any class of jerry-building. Mr. Meik mentioned the factor of safety of the building, and I should like to say a word about that. Although the calculated factor of safety is, say, 4, the actual factor of safety in a reinforced-concrete building such as this is, is greater owing to all parts of the structure working together, and this increases the factor of safety considerably. The loading way for vans between the two buildings was designed for 2 cwt. per square foot with a factor of safety of 4. Some two months after the concrete had been made ballast and sand were stored upon this floor to a height of over 9 feet over a large area; when seen it was of course removed as soon as possible. This load was cer-

tainly not less than 9 cwt. per square foot, so that the actual factor here was more than 4, especially as no undue deflection took place and not the slightest damage to the structure occurred. Since that time, as Sir Henry Tanner has said, the building has got immensely stronger.

THE PRESIDENT: Sir Henry Tanner has given us a most excellent Paper. The only thing one feels about it is that one wishes that other General Post Offices had to be built, so that each of us might have the opportunity of trying his hand upon them! Such luck as Mr. Max Clarke talks about only falls to very few, and Sir Henry Tanner is to be congratulated on having, not only the luck, but the capacity to carry out this building in the excellent way he has done—as Professor Pite pointed out, partly under the considerable advantage of not having that old bugbear the Building Act to worry him. Nevertheless, in spite of that advantage, he might have made a much less satisfactory building than he has done, and we must not put it all down to the absence of Building Regulations! One question interests me considerably, and that is whether with these thin floors the sound gets about from one floor to another. I imagine, from what little experience I have had, that ferro-concrete carries sound tremendously, and I fancy that if a building was wanted for anything like a domestic purpose, these thin floors of concrete might be found rather a disadvantage. I was exceedingly interested in the fact that the chimney-stack has been erected in ferro-concrete. I only know of one other example, and I am told that it has already given a vast amount of trouble through cracks in all directions, and experts have had to be called in to see whether it was going to fall down. I hope Sir Henry Tanner's chimney-stack will not give him any trouble. I take it that he has good reason for adopting this construction, but it really seems a risky material with so much iron in it, taking into account the great variations in temperature. As regards these arched beams, I think Sir Henry Tanner will admit perhaps that the arched form is a bad form from this point of view: that the beam really ought to be strongest in the centre, and, so far as I can see, the arch makes it the weakest in the centre, so that some unnatural form of reinforcing has had to be resorted to inside to get over the fact that the beam takes the form of an arch but does not really act as such. I hope Sir Henry Tanner will forgive me if my criticism is faulty, and perhaps will admit it if it is legitimate. I do not think I need say anything further, except that we all hope that some day somebody will think of a method of constructing a ferro-concrete front to the street instead of having to face the building with Portland stone. It seems a pity if with all our young geniuses, not to mention the old ones, we cannot think of some way of making a wholly sensible and useful design which shall be pleasing to us as architects. I will now ask you to pass the vote of thanks to Sir Henry Tanner for his excellent and most interesting Paper.

SIR HENRY TANNER, in responding to the vote of thanks, said: I have nothing to do really with the designing in reinforced concrete—that was purely M. Mouchel's business, and I can take very little credit for either its form or anything else, except that I restricted him in his sizes, and I wanted the arched beams in particular not to be deeper than he could avoid, and therefore he made them more in the way of what I should call cantilevers; it is so constructed if you observe the reinforcement. If we had had a parallel beam the depth would have made the place look very much heavier than it does now, and, besides that, it would have interfered with the conveyors; we wanted to get them up as near as possible to the ceilings. We thought they were going up on the ceilings on the ground floor, but instead of that they are on the ceilings of the sub-ground floor. Sir Matthew Nathan has spoken in very kind terms of my buildings for the Post Office, and for many years I did practically nothing else. It seems to me it is only a natural thing to put up a building to suit the business to be carried on in it, and to make everything as convenient as possible for the work, in this particular case that of the Post Office, so that the staff should get through it with the least expenditure of time and money, and I think we have succeeded in doing that in some cases, if not in all. It depends on the site to a large extent whether you get the facilities needed; still, in this particular case we were enabled to make, I suppose, the best arrangement possible with that end in view. Mr. Searles Wood spoke of visits. The visits of this Institute and of the Association and others gave me much pleasure, and I quite enjoyed their coming to see the building. It was near at home; there has been nothing of the sort anywhere near London so far of any size, and it was the first opportunity the members of the profession had of seeing anything of the kind. As to the outside of the building, I did not intend to say that the rendering was put on while the structure was wet—that was impossible, of course; we only allowed the first coat to get fairly hard, but not dry, so as to take the second coat easily. Of course the Building Act, as has been said, would have rendered this building impossible: we could not have done it in these days, whatever may be the case in future. The alterations of the Building Act will enable you to practically follow the lines we have taken, I think: I do not fancy there will be much difference. The rules of the Institute are very much on the lines adopted in this particular case. As to expansion, all I can say is that we have experienced no trouble since the place has been covered in. In all large flats covered with asphalte there will be trouble—I have had it in many cases in ordinary steel structures; asphalte cannot be expected to be free from cracks if it is

too large an area—provision will have to be made to give it some way of expanding. I have done it in this case and in others by making large rolls so that it can draw off from the angles. Experience about it in a hot climate is somewhat difficult to answer: evaporation is so great in those places that probably the water will evaporate too quickly; but M. Hennebique has had this experience in many cases, and he has suffered no trouble. The Institution of Civil Engineers, I may say, are now writing to all their agents or Affiliated Societies abroad, and they hope in time to get answers from them, and then we shall know more about what happens in hot climates, and I think that will be of great assistance. As to the General Post Office East, I think I had better say nothing about that at present—the authorities have not arrived at any conclusion on the point. In regard to the elevation, you see this building has only got two short frontages. We wanted to make these frontages of stone. I do not think any other material would have been acceptable; therefore the back part was rather governed by what we did to the street front. That is how the cornices and modillions have arrived. Sir Aston Webb made some very useful remarks upon the system. It is a subject, I think, that will have to be taken up in the future. I do not think it always pays; it depends entirely on what the structure is. If it is sufficiently large it will pay; if it is small, or is for floors only, it is not worth doing. Mr. Max Clarke spoke of its being a cheap building. No doubt it is; it would have cost £60,000 more if it had not been done in that material; but the $2\frac{1}{4}d.$ is for the reinforced concrete alone, and does not include anything else, digging or anything of that kind. I should like that to be clearly understood. As Mr. De Vesian said, where it was intended to take 2 cwt. it has taken 9 without any trouble whatever. And the same with the floors: they are very thin, but we have loaded them to twice their nominal load, keeping well within the limit set for deflection. The utmost deflection has been a thousandth part of the span, which is hardly perceptible; and the superloads I may say were only fixed after we had made considerable experiments. I piled all the loaded baskets and boxes I could on a given span, and we ascertained the weight of those. As to the cement specification that was entirely M. Mouchel's; it seemed to me quite sufficient, and we have always come up to the load and more. As to wet or dry concrete, I should prefer it of a moderately dry consistency if it could be so used, but this cannot always be done. As Mr. Max Clarke said, where you have much reinforcement it must be made wetter; but you have to bear in mind the fact that that does not increase in strength to the same extent as the dry does. One speaker asked whether the stonework was on a special foundation. It is all on the reinforced concrete, and some of the walls bearing the stone front are very thin. They look very large, but still they may be hollow. As to sound we have not been troubled at all so far. I have not heard anything about it; but where a wood-block floor is laid on the top there is not so much sound. It takes a great deal of the impact, and, unless heavy trucks or something of that sort are run across, you do not notice it at all. In the front block there are false ceilings, particularly to hide the beams and to make level ceilings. I think Mr. Meik's question as to the factor of safety has been answered both by Professor Adams and by Mr. De Vesian. When you bear in mind that this concrete trebles in strength in three years there is a very ample margin, and the strain of 50 per cent. on steel is practically never exceeded. The 4-inch cubes are certainly small: I should now make them 6 inches. I have, indeed, made some 6 inches for another place, and shall test them shortly.

9 Conduit Street, London, W., *7th January* 1911.

CHRONICLE.

Competition for Monument to commemorate Foundation of the Telegraph Union.

The following communication, addressed to the Secretary of the Institute, has been received from the General Post Office, dated 31st December 1910:

Sir,—I am directed by the Postmaster-General to inform you that no suitable design having been submitted in connection with the recent competition for the erection of a monument at Berne to celebrate the foundation of the International Telegraph Union, it has been decided to hold a further competition for which designs must be sent to Berne by 15th August next.

I am to enclose three copies of the programme for your information.

From the Report upon the recent competition made by the International Jury who considered the designs, it appears that out of the ninety-two designs submitted, no fewer than seventy were either clearly inadequate or had no relevance to the idea which they were intended to represent. The Jury wish to emphasize the importance of fully realising the idea which the monument is to commemorate, and of submitting only such designs as could be carried out under the conditions set forth in the programme, and it is considered desirable that the attention of intending competitors should be specially called to these requirements.—I am, sir,

Your obedient servant,

E. W. Farnall.

The promoters of the competition are the Swiss Federal Council, and the monument is to be erected on the Helvetia-platz, at Berne. The competition is open to all artists irrespective of place of residence and nationality. The form of the monument is left to the choice of competitors, but it is essential that it should clearly symbolize the foundation of the Telegraph Union, and that it be well suited to the site. A fountain may be a feature of the monument. The choice of materials is left to competitors, but they must be of such a nature as to guarantee a solid and monumental structure within the limits of the sum fixed, viz. 170,000 francs. The expenses of transportation and customs duties, and the cost of foundations up to the ground level, will be borne by the Federal Council. The awards are to be made by an international jury of twelve members, the English member being Sir George Frampton, R.A. The jury is to have 20,000 francs at their disposal to reward deserving competitors. The number and value of the prizes are left to the discretion of the jury, but the highest premium, it is stated, may reach 8,000 francs. Should the jury not be in a position to recommend any of the designs, the Federal Council will be at liberty to open a limited competition among the authors of the premiated designs. Those taking part in the second competition would receive a fee fixed in advance by the jury.

The programme of the competition, with plans of the site, section showing levels, and photographic views, may be seen in the Institute Library. Further copies may be had on application to the Swiss Federal Department of Posts and Railways, or to the International Bureau of the Telegraph Union, at Berne.

Town Planning: an important Middlesex Scheme.

Under the heading "Town Planning in Practice" in the last number of the Journal were given some particulars of the movement which is on foot for developing the Ruislip Manor Estate. Premiums of £150, £100, and £50 have been offered to architects and surveyors for the laying-out of the estate, and sixty-two designs have been submitted to the assessors, Sir Aston Webb, C.B., R.A. [*F.*], and Mr. Raymond Unwin [*F.*], whose award is now announced as follows: (1) A. and J. Soutar, 37 Westover Road, Wandsworth, S.W.; (2) George Hornblower [*F.*], 2 Devonshire Terrace, W.; (3) H. R. Gardner, Reigate Road, Leatherhead. It is understood that the drawings submitted in this competition will be on view in the Alpine Club Gallery, Mill Street, Conduit Street, up to and including the 14th inst. The *Times* of the 2nd inst. says it is expected that the design submitted by Messrs. A. and J. Soutar will be substantially adopted by the promoters, but it is expressly stipulated that it "is liable to variation and is not to form the basis of any contract." The design has been prepared in conformity with the desire that the new town should be planned on a generous scale and should possess all the amenities demanded by the highest standards of housing. A "laying-out" has been adopted which, while affording ample opportunity for architectural treatment and interesting effects, will be sufficiently "commercial" to secure financial success for the undertaking. The estate has been divided into four areas, and the suggested number of houses per acre ranges from an average of three to an average of ten. The total number of houses to be erected on the whole of the estate contemplated by the

architects is 7,642, divided as follows :—Not exceeding £30 rental, 3,556 ; not exceeding £60 rental, 3,541 ; not exceeding £100 rental, 524 ; and exceeding £100 rental, 21. The wooded hills on the estate form a beautiful feature in the landscape, and an endeavour has been made to preserve it by leaving belts of copse on the slopes and crests of the hills. In the view of Messrs. Soutar, these would form excellent natural parks, which would enhance the amenities of the whole estate. The preservation, as far as practicable, of the existing features of the landscape has, indeed, influenced the architects throughout the whole of their scheme of treatment, and if their proposals in this respect are carried into effect the proposed new town will possess the additional charm of natural beauty. Of the total area of nearly 1,300 acres comprised in the college estate, about two-thirds should, it is suggested, be devoted to building purposes, while the remainder should be utilised for open spaces and roads. If the views of the architects are realised and if the development of the surrounding land is carried out in conformity with them, the promoters consider that the laying out of the district will be regarded as " a model of considered planning."

The late Mr. J. Howard Colls.

The death took place on the 29th ult. at Buenos Ayres of Mr. John Howard Colls, the eminent builder and contractor. Mr. Colls, who was 64 years of age, was joint chairman of the firm of George Trollope & Sons and Colls & Sons, Limited. The firm of Colls & Sons was founded by his father. Mr. Colls was a past President of the National Federation of Building Trades Employers of Great Britain and Ireland, of the Institute of Builders, and of the London Master Builders' Association. His portrait, painted by Mr. W. Q. Orchardson, R.A., was presented to him by the building trade and other interests in recognition of the part he took in the famous " ancient lights " case—*The Home and Colonial Stores* v. *Colls*—which he carried to the House of Lords and won. Mr. Colls' appeal was twice argued in the House of Lords—on 15th, 18th, 19th, and 22nd May, and again on 8th, 10th, and 11th December in the year 1904, judgment with costs being finally and unanimously given in Mr. Colls' favour on the 2nd May following. Mr. Colls' public-spirited action on this occasion resulted in the law of ancient lights being put on a far more satisfactory footing, and removed many disabilities under which architects had suffered in dealing with such matters. The thanks of the Institute for the service he had rendered the profession were conveyed to Mr. Colls in a letter addressed to him by the Institute Council.

A Street Improvement at King's Cross.

An important street improvement, embodying the erection of what will be the largest open road bridge constructed of reinforced concrete in London is now being carried out at King's Cross. This bridge on completion will form an entirely new thoroughfare extending from Pentonville Road to King's Cross Road. The primary object of the thoroughfare is to enable the London County Council tramways from Highgate to run from Caledonian Road into Gray's Inn Road, as the present connexion has been found to be inconvenient owing to the sharpness of the angle formed at the junction of the Pentonville and Gray's Inn Roads. The bridge will occupy the site of the present booking-office, which has entrances in both of the roads to be linked up, and the company are taking the opportunity of carrying into effect a much-needed improvement, from their own point of view, in providing an entirely new station which will possess largely-increased facilities for handling the traffic at this congested point. *The Times* of the 4th inst., in its Engineering Supplement, gives the following particulars of the work :—

The bridge, which is to be constructed on the Coignet system of reinforced concrete, is a skew bridge, 130 ft. long, with two principal spans of 53 ft. and 30 ft. composed of five straight reinforced beams in each span. The reinforcement of the beams, 22 in. by 5 ft., for the larger span is composed of round bars of mild steel placed in the lower part of the beam to take the tension. Bars will also be provided in the upper portion of the beam in order to take up a certain proportion of the compression, and these two sets of bars will be connected by stirrups of small diameter spaced in such a manner as to take up the shearing efforts. Secondary beams varying between 7 in. by 10 in. and 10 in. by 14 in. will be made in the same manner as the principal beams. The principal beams of the smaller span will measure 10 in. by 3 ft. 6 in., and will be reinforced in a similar manner to the beams of the larger span. The reinforced concrete has been calculated for a working stress not exceeding 16,000 lb. per sq. in. for the steel in tension, and 600 lb. per sq. in. for the concrete in compression. At each end of the bridge the beams will be supported by existing brick retaining walls underneath the roadway. The inner ends of the spans will be supported by five main pillars in reinforced concrete measuring 24 in. by 24 in., and two others measuring 16 in. by 16 in. The foundations of all these pillars will be underneath the island platform situated beneath the bridge.

The width of the bridge is to be 60 ft., 36 ft. of which is to be allocated to the roadway, the remainder being occupied by two sidewalks each 12 ft. wide. The portion of the bridge supporting the roadway has been calculated for a uniformly-distributed load of 4 cwt. per sq. ft., and for two moving loads of 8 tons each at 6 ft. centres, or 16 tons on one axle. The side pavements have been calculated for a uniformly-distributed load of $1\frac{1}{4}$ cwt. per sq. ft. in addition to the dead load. The roadway is to accommodate two lines of electric tram

way, and the deck has been provided with two reinforced concrete conduits for the tramway cables. Underneath each footpath a reinforced concrete pipe duct 3 ft. by 2 ft. 9 in. is to be built. The reinforced concrete slabs for the decking of the bridge will vary in thickness between 5 in. and 8 in., and will contain a meshwork of bars of small diameter placed in the lower portion of the concrete in order to take up the tensional stresses.

The new station will be slightly below street-level, and will have entrances 16 ft. wide from the new street, 12 ft. wide from Pentonville Road, and 15 ft. wide from the existing subway to the Great Northern terminus. It will provide a booking-hall of an average width of 60 ft. and an average length of 78 ft., from which two flights of steps will lead down to the platforms. The location of the platforms will not be altered, but the present arched roof, which is now being demolished, will be replaced by a roof of the umbrella type over the island platform, while the roof over the platform for the west-bound trains will be of cantilever type and supported from the wall. On the booking-office floor a parcels-office, measuring about 20 ft. by 36 ft., is to be built, communication with the platforms below being provided by electric lift.

Commercial Paints.

The Paint and Varnish Society held a meeting on the 15th ult. to discuss the little book entitled "Notes on the Properties and Ingredients of Commercial Paints," compiled by the R.I.B.A. Science Standing Committee and published by the Institute in the month of July last. The President, Mr. Gaston Depierres, presided, and some members of the Institute Science Committee were present by special invitation. The President, in opening the discussion, said he would not criticise the work *ad seriatim*, but would rather attack the principle with which it was impregnated—viz. the theory of purism. Pure white lead, pure white zinc, pure linseed oil, pure turpentine, pure this, that, and the other, were used every day to produce paints of little value and utility; pure pigment, pure binder, was a relic of past ignorance. It was useless for architects to rely upon chemical analysis. When one considered that most pigments were allotropic, that paint liquids were rarely alike, and that paint changed in many ways with age, the chemist's test by itself was of little value. Chemistry could, no doubt, tell us the things that had been used in making a paint, but it could not very accurately define its physical state, nor could it foretell what the paint would do, and it was only what it would do that was the true measure of its value and worth. The value of a pigment was not defined by its chemical composition; white lead or oxide of zinc might be chemically pure and yet be of no use whatever as a pigment, consequently it was undeniable that the physical state had a preponderating influence. Undoubtedly there were allotropic states different from the matter—that is to say, modification in the nature of crystallisation; also, from the chemical, or rather, chemico-physical point of view, the presence of a certain matter in small quantities had a great influence on the physical state. To-day, paint-making had been rescued from the domain of empiricism, having been put as far as possible under the control of exact science; one skilled in it could practise it with a certainty of results in exact proportion to his knowledge of its principles and his ability in applying them. In making paint of value, the secret—if there be any—lies in the proper adjustment of the amount and kind of each material needed to secure a perfect product. The progressive paint manufacturer of to-day could design paint to meet any reasonable condition of location, atmosphere, surface, application, drying and wear; but of course, in order to do so, he must know these conditions; these being known to him, architects need have no fear in entrusting him to manufacture coatings which would accomplish the desired result. He could then make paint fulfilling all the necessary conditions—viz., quick-drying, acid proof, waterproof, and to a certain extent weatherproof; but there was one thing he could not do, and that is make it fool-proof! To-day, a painter or paint-user who attempted to grind or mix his own paints was as unlikely to succeed as if he were to attempt to make his own varnish, brushes, &c. The R.I.B.A. book represented a worthy effort; and although it would fail to bring about any improvement, it had at least the advantage of showing that architects had become aware of the fact that it was necessary for them to learn more about the composition of the various paint products, and to know what characteristic properties were given to paint by this or that raw material, so that he might use his judgment and discretion in selecting paints capable of producing beautiful and durable results. It conclusively showed that the members of this honourable profession, having at heart their reputation and the interest of their client, had become aware of the fact that in the future it would be necessary for them to rely upon someone more qualified to meet their wants than the ignorant painter. To-day it was possible to get paints uniformly well prepared, thanks to the technical schools equipped with modern plant machinery and laboratories, who supplied the paint manufacturer with men well trained in this important industry. For many decades English varnishes and paints had enjoyed all over the world an unrivalled and well-deserved reputation, and were still to-day superior to any foreign production. The importance of the proper application of paint, however, received less attention than it deserved. Painters having technical knowledge—the result of their attendance at technical schools—were very difficult to find. Architects and engineers should demand the employment of competent artisans to do their painting, for good results were quite as

much dependent upon the goodwill, intelligence, and ability of the painter as upon the quality of the paint used. Much had been said and written regarding the apparent failure of paints enjoying a good reputation. From personal experience, and from information gained from others, he was led to conclude that some contractors used less of the paint specified than had been presumed. What they did use was also frequently applied under such unfavourable weather conditions as to preclude the possibility of obtaining satisfactory results. Nearly every complaint as to the non-drying of paint, when carefully investigated, was found to be due to insufficient cleaning, or application under unsuitable weather conditions, and not to its chemical composition. To attempt to apply paint in damp, frosty, or foggy weather on a greasy or dirty surface was waste of time, material, and thought. One of the best methods to secure better painting was to have the painter's work carefully superintended by competent and vigilant inspectors or clerks-of-works. In conclusion Mr. Depierres emphasised the following points : (1) That chemical analysis is of value only to determine the exact composition of the material substances ; (2) that physical tests under normal conditions give very conclusive data ; (3) that accelerated tests under " abnormally severe conditions " are of little value ; (4) that the long service test is of much value ; (5) that the method of application is equally as important as the quality of the paint ; (6) that to know the probable results to be obtained from the use of a paint, one must know the following things about it—(*a*) its history and mode of preparation, (*b*) its physical properties, and (*c*) its chemical properties.

Mr. Matt. Garbutt [*F.*], Hon. Secretary of the Science Committee at the time the work under discussion was produced, said he was a little sorry that the President did not deal more with the details of the pamphlet. In a sense he quite sympathised with the observation of the President that to require pure paint was a relic of past ignorance, and he quite understood that there were a number of materials that might be effectively used to-day that were quite unknown fifty years ago. What architects were really anxious to produce was a specification which would meet with the approbation of the good paint manufacturers and enable architects to say what they really required. Then, if unsound paint was sent on to a job, architects would be able to protect themselves and their clients, and in a sense protect the manufacturers also. Such a specification was very difficult to arrive at, and the book was an effort to initiate a discussion which should eventually result in such a specification. To meet the case it was necessary to have something quite clear and precise, a specification that would actually enable offenders to be taken into court. In order to do that some sort of agreement must be arrived at with manufacturers as to what really constituted a good paint. The R.I.B.A. Science Committee were quite prepared to accept a specification subdivided according to the class of work for which it was to be used, just as the steel specification of the Engineering Standards Committee was subdivided. Clearly a paint might be extremely good for the Forth Bridge, and unsatisfactory for a house front in a London street.

Mr. Charles Harrison said he was often consulted as to troubles builders were in with paint, and he ventured to state that 98 per cent. of them when inquired into had been due to want of knowledge on the part of the workmen, good paint having been spoilt for want of proper application. He hoped architects and those responsible would use their influence in getting the actual painter to join some technical institution and learn something of the technical side of the subject. He wished to refute the assertion made in the pamphlet that the question of chemical permanence was evidently one which had not yet greatly influenced the manufacturers of paint materials, because he knew that the bulk of the paint and varnish manufacturers were to-day employing the very best ability and doing all that was possible to attain the acme of results in that direction. Some manufacturers had chemists attached to their works to examine the stability of the pigments and to see that the material was free from contamination. Frequently paint was contaminated by the workman using it. The pamphlet dealt very thoroughly with pigments, but not a word was mentioned about the binder, except linseed oil. The Committee evidently had overlooked the fact that it was not so much the pigments as the composition of the binder that was of importance. Many architects insisted that the paint should dry in a certain time, but forgot that the quicker the binder dried the quicker was the paint destroyed. There was no possibility of compromise with linseed oil ; any alteration altered its properties, and an alteration of its properties meant destruction of the paint. Then it had to be remembered that, when the paint commenced to dry, dust began to settle upon it, alkaline dust, composed of all sorts of refuse, the coarse particles of which, sticking on the paint, acted as ledges. Then came the rain, which washed the dust and dirt well into the ledges. In winter came the fog, containing elements of a very destructive nature to a linseed-oil film. All these points had to be very carefully considered.

Mr. W. Wonnacott [*A.*], the present Hon. Secretary of the Science Standing Committee, said he had been much struck with the concluding point of the President's remarks, that it was essential to know three things—the history and mode of preparation, the physical properties, and the chemical properties. Pure chemists and pure physicists could say something upon the two latter subjects, but when inquiry was made into the mode and nature of preparation of any particular paint, the Committee found the whole trade as a body refused to disclose

anything. Naturally the architect, making his test by the old-fashioned rule-of-thumb, condemned material that had failed, and never used it again. Architects certainly thought they were entitled to know, as responsible parties, something of the preparation of the material, and that was why he appealed to manufacturers to assist the architectural profession to bring about a closer accord between the manufacturer and the user, without, of course, disclosing so-called "trade secrets." It was difficult to discover a trade representative who could answer questions in an intelligent way, and therefore the only thing to be done was to go to the friendly manufacturer and get him to disclose a little more. He agreed that paints lasting too long and standing too well were bad from a trade point of view, but there was the test of service. The builder wanted his certificate from the architect far too soon, because the architect was not in a position to quickly express a technical opinion on the quality of the paint, owing to its not having stood long enough to permit him to form a proper judgment. In that way he was completely at the mercy of the manufacturer. As to raising the standard of the artisans, that did not really concern the architect, because he had no voice whatever in the employment of labour, and could only bring indirect pressure on the builder or decorator. The President having set aside the theory of "purism," and given no suggestion of what should take its place, he hoped the members of the Society would deal thoroughly with the details, so that out of friendly discussion and criticism they might devise something which even the Paint and Varnish Society would consider worthy of its approval.

Mr. Cruickshank Smith said he thought everyone who read the book would appreciate that it was a very earnest and carefully-thought-out attempt on the part of professional men, architects and engineers alike, to arrive at some definite understanding and knowledge of what was admitted by everyone to be a very complex and highly debatable subject. It might assist in getting to the root of the question just to consider for a moment the relative positions of architect and paint manufacturer. In every contract for painting work there were three interests involved. First, that of the owner of the property to be treated with paint, whose interest the architect or the engineer was employed to protect. Then there was the manufacturer of the paint; and, finally, in many cases an intermediary, the contractor. The difficulty to his mind was that, although architects made certain stipulations which manufacturers as a rule were able to cope with, unfortunately in many cases, on account of trade usage and practice, the intervention of a third party, the painter or contractor, made it very difficult for the manufacturer to thoroughly understand what the architect required. As a matter of fact, specifications did not, as a rule, come before the manufacturer of paint at all, except by accident. What was needed was closer co-operation between the scientific manufacturer and the architect. When it came to the protection of iron-work or outside cement-work, architects felt their scientific and technical knowledge somewhat scanty. Recent paint technology had practically settled the point that paints were finished materials. Paint put on under the best conditions was not made up by the painter at all, but was put into his hands in the form in which it should be used, and therefore to specify formulæ for the composition of protective paints was really a matter for the expert paint manufacturer. If an architect or an engineer was in a position to go to a thoroughly qualified expert paint manufacturer and tell him that he had a certain piece of steel or iron work that had to be treated under certain conditions, or that he had a building of reinforced concrete which he desired to protect against the weather, there was no doubt that very valuable help would be given to him by the paint manufacturer. One specification could not be worded to cover all the classes of paint which might be used. Various classes of work required entirely different paints, and consequently different specifications. He believed that paint experts would be only too glad of the opportunity of co-operating with such an important and influential body as the Royal Institute of British Architects, in order to get at the bottom of what was to the technical paint manufacturer a most serious difficulty. He suggested that some co-operation might take place between the Paint and Varnish Society, which was an educational and scientific society, with no trade element in it, and the Royal Institute of British Architects.

Mr. Phillips said that when specifications were made out, there was often a clause that four coats of paint had to be supplied; but it was a well-known practice of painters that the first coating should not be of the same character as the second. He suggested that the paint manufacturer should be notified as to the surface on which the paint was to be applied, because, applying a first coat on wood would require paint to be made up in a different way from the paint to be applied to plaster-work.

Dr. Blackler considered that the Royal Institute of British Architects was to be congratulated on having brought out the book. They had to cope with great difficulties. When the idea was first suggested that the Society should deal with the subject, the object was to obtain some helpful criticism of the work that had been done by the Scientific Committee of the Institute. In his opinion the Committee had published a book which had not gone too much into detail, and had defined complicated colours in a manner that left the manufacturer a good deal of discretion. There were one or two questions he thought the Society could deal with—the subject of turpentine for example. At present

the London County Council allowed the use of substitutes in their paints, and it had been proved by many authorities that such substitutes could be used without any disadvantage to the paint. When varnishes are considered, it would be more advantageous to permit a certain proportion of substitute in place of pure turpentine, and employ a superior gum, than to use pure turpentine and reduce the price by employing a cheaper gum. With regard to the Committee's remarks upon driers, boiled linseed oil mixed with the materials referred to by the Committee would give a very poor result, or no result at all, and the zinc-white paragraph also was an open question.

Mr. Wilfred Nicholson thought a good deal of the trouble was due to the fact that architects were very difficult to approach. Recently a specification was passed by an architect for material for gas holders of a large gas company, and the paint was specified to be made of genuine white lead. That was practically of no value in connection with gas matters, because there was so much sulphuretted hydrogen that white lead paint was useless. An attempt was made to approach the architect to explain the difficulty, but his reply was "There is no need for you to see us; we have used white lead paint so long that we know its properties." As a matter of fact the manufacturers sent the correct material.

The President in replying to points raised in the discussion, said it was well known that the famous reds that had lasted for many hundred years in Herculaneum and Pompeii were merely composed of red oxide of iron and lime, and the magnificent blue used in the fresco work of some of the mural paintings had been composed of ground glass coloured with cobalt salt, and it had been possible approximately to count the number of coats given to the walls to thirty-five or forty, such a number of coats being necessary to produce the required result. But where was the house-owner to-day who would be prepared to pay for forty coats of paint to produce the necessary colour? The chemist of to-day was much more advanced than the chemist of the past, and could produce paints and colours far and away superior to the old colours used in ancient times. He was glad to see that Mr. Wonnacott agreed with him as to the proper application of paint, because the result in more than 50 per cent. of cases depended upon the method of application. He regretted that architects had nothing to do with the employment of labour, because they could certainly purify the painting trade if they insisted on every painter having a certificate of efficiency. Of course, it was quite impossible for one specification to cover everything, because more and more paint would have to be designed for special purposes. For instance, in electrical machinery to-day, insulating varnishes and paints were required that ten or fifteen years ago did not exist. New methods were required every day. Already the painting of structural steel used in reinforced concrete had engaged the attention of paint specialists, and to-day structural steel was protected by paint very much better than it was ten to twenty years ago.

Town-Planning Classes.

The Education Committee of the London County Council proposes that there shall be classes in town planning at the Westminster Technical Institute. The course of lectures to be given would bear upon civil engineering, architecture, and art work, and would necessarily involve the consideration of traffic problems.

THE ARCHITECTS' CLUB (1791) AND THE ARCHITECTURAL SOCIETY (1806).

Having occasion recently to consult the *Life of James Gandon* I discovered that mention of his election to the Architects' Club resulted in some interesting information at the end of the book, which I quote in full below. It appears that nothing is known of the Club in the Institute Library, but I was courteously shown the early publications of the Architectural Society, being interested to ascertain whether there were grounds for supposing that the Club was a forerunner of the Society. In the earliest publication, to which I shall presently refer, there are several pencil notes presumably made by the donor, Thomas Arnold, member of the Institute, who presented the volume in 1880. These notes supply the sources of information known to him about the architectural societies earlier than the Institute. On the opposite flyleaf I noticed the following note, also in pencil, though I suspect in a different handwriting: "an Architectural Club was formed in 1791, query what." I think it may be interesting that an answer as full as possible should be given, in the JOURNAL, from the *Life of Gandon.*

MR. COCKERELL'S LETTER, AND RULES, ETC., OF ARCHITECTS' CLUB.

Saville Row, 17th December 1791.

SIR,—I have the honour to inform you, by desire of the Architects' Club, that you have been named an Original Honorary Member thereof, and also to forward to you a copy of the Rules established for the Club, with a list of the Original Members.—I am, Sir, Your most obedient Servant, S. P. COCKERELL.

James Gandon, Esq.

P.S.—I forward this from the Victualling Office, to avoid postage.

Thatched House Tavern, 20th October 1791.

Present:—

James Wyatt. George Dance.
Henry Holland. Samuel Pepys Cockerell.

It was proposed and agreed to establish a Club, to be called the "Architects' Club," to meet at the Thatched

House Tavern to dinner on the first Thursday in every month.

That Mr. Cockerell be requested to undertake the office of Treasurer to the Club.

That an annual subscription of five guineas be paid by each Member.

That Honorary Members be received as visitors.

That the Treasurer do receive the subscriptions of the Members, and thereout to pay all the bills.

That the dinner be served at five o'clock precisely, and the bill be sent up at eight.

That the Treasurer be requested to take the chair, and, in his absence, the Member who attends last before the dinner is served.

That the following Gentlemen be considered as Original Members of this Club, together with the Members of this meeting, viz.,

Sir William Chambers,	Richard Norris,
Robert Adam,	John Soane,
Robert Mylne,	John Yenn,
Richard Jupp,	Thomas Hardwick,
James Lewis,	Robert Brettingham, and

James Paine, Esqs.

That the following Gentlemen be considered as original Honorary Members of this Club, viz.,

J. Carr,	Thomas Sandby, and
—— Revett,	James Gandon, Esqrs.

That every new Member and Honorary Member be in future elected, and every question respecting the Club be determined, by ballot.

That no man be proposed to be elected a Member or an Honorary Member of this Club, unless he be an Academician or Associate of the Royal Academy in London, or has received the Academy's gold medal for Composition in Architecture, or be a Member of the Academies of Rome, Parma, Bologna, Florence, or Paris.

That no man be eligible to be elected an Honorary Member whose established residence is in London.

That every new Member do pay to the Treasurer five guineas on his admission.

That every candidate be proposed, and every question (except the question of adjournment) be delivered in by the proposer, in writing, to the Chairman, at a meeting of the Club, at least a month before it can be balloted for.

That no new Member, or Honorary Member, nor any question, be balloted for, unless two-thirds of the existing Members of the Club be present.

That on the ballot for a new Member, or Honorary Member, one negative be an exclusion, and on a question the majority to decide.

Samuel Pepys Cockerell, who signs the letter to Gandon, was father of Professor Cockerell, second President of the Institute, and therefore grandfather of Frederick Pepys Cockerell who was Honorary Secretary many years.

The Institute KALENDAR sets out that "At the time of the foundation of the Royal Institute of British Architects there existed in Lincoln's Inn Fields the Architectural Society"; also, that "Instituted in 1831, the Architectural Society had for its governing body" &c., &c. So far this must be correct, but it is evident from the volume previously mentioned, 'Essays [of the Society], 1808," that an Architectural Society was *founded* twenty-five years earlier. The rules and list of members are supplied with a heading specifying the year 1806 as the date of foundation. Fifteen years, it will be noticed, had elapsed since the foundation of the Club. Further particulars, and especially the length of life of the Club, would be welcomed.

Whether the Club should be referred to in the KALENDAR may be open to question, but I venture to suggest that the earlier foundation of a Society should be mentioned.

I believe that in the year 1834 the contemporary Architectural Society rather resented the terms of the proposal of the architects who were active in establishing the Institute, and, though a predecessor, that the Society was not an ancestor. The fact of merging into the more influential and representative body claims notice in the KALENDAR wherein is recorded the junction of the Society with the Institute which was not effected until 1842. It has seemed desirable likewise to mention the year of the Society's institution, probably with the object of pointing to the earliest year of any representative coterie of architects. If this hypothesis can be accepted a word may be said in favour of mentioning an earlier foundation which can now be instanced with certainty, retaining, of course, the interesting information of the immediate predecessor and sometime contemporary already supplied.

HARRY SIRR [*F.*].

MINUTES. V.

At the Fifth General Meeting (Ordinary) of the Session 1910-11, held Monday, 2nd January, 1911, at 8 P.M. —Mr. Leonard Stokes, *President*, in the Chair; entered in the attendance-book the names of 30 Fellows (including 11 members of the Council), 54 Associates, 5 Licentiates, and numerous visitors—the Minutes of the Meeting held 19th December were taken as read and confirmed.

The Hon. Secretary announced the decease of the following members:—Frederick William Peel, elected *Associate* 1881, *Fellow* 1905; Charles Ashton Callon, *Associate*, elected 1890; Frederick William Roper, *Associate*, elected 1863.

The following members attending for the first time since their election were formally admitted by the President:—Frederick John Osborne Smith, *Fellow*; Thomas Herbert Rhodes, Paul William Mulready, Edward Woodhouse Stubbs, Alner Wilson Hall, William Alfred Masters Fiddaman, Wilfred Hoyle, *Associates*; William Thomas Cresswell, Francis Hatch, *Licentiates*.

Sir Henry Tanner, I.S.O. [*F.*], having read, and illustrated by lantern-slides, a Paper on THE NEW GENERAL POST OFFICE, a discussion ensued, and a vote of thanks was passed to Sir Henry by acclamation.

The proceedings closed, and the Meeting separated at ten o'clock.

Reinstatement.

Mr. Frederick Bennett Smith, of "Barcicroft," Burnage, Didsbury, Manchester, has been reinstated by the Council as Fellow of the Royal Institute.

Villa Madama. View from the North.*

THE CARDINAL MEDICI'S PLEASURE HOUSE.

By Halsey Ricardo [*F.*].

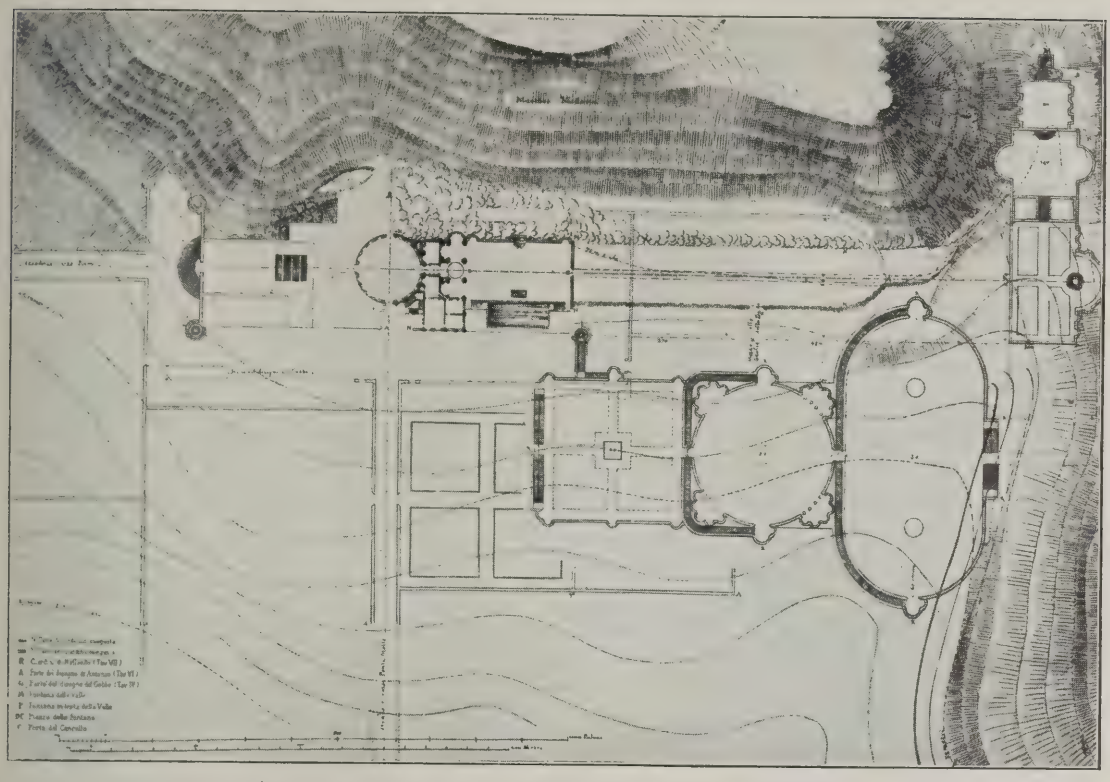
Read before the Royal Institute of British Architects, Monday, 16th January 1911.

IN talking of the Villa Madama—as it is now called—the chief point of interest in the poor, uncompleted, and now ruined thing is its ancestry. In the mediæval ages you must trace the generation of one building from another by the buildings themselves; scarcely ever can you get the names of the artificers—generally the name of emperor, king, or presiding bishop is as near as one can get to the begetters of the structure. The pay rolls are blandly impartial; they scarcely hint at any one person being in charge, except perhaps the paymaster and his auditors. And how these guilds of masons, carpenters and joiners moved about from one place to another has to be traced in the stones they fashioned and in the wood they wrought. But in the days of the full Renaissance—and in Italy especially—the case is different. Familiar names meet one at every turn; one's chief difficulty is to determine how much one name covers another one, how much one underlies the other. And in this case of the Cardinal's pleasure house—which bears the name of Raphael as its designer—one wants to know what are the architectural forbears of Raphael's ancestry. He was—we can see clearly—the son of Bramante, who was the son of Alberti and half-brother to Leonardo da Vinci. But on each generation a cloud of cousinry impinges, and as each man grows up to man's estate he receives a call to Rome, and becomes thereon a changed idealist. The romance of Rome—the story of

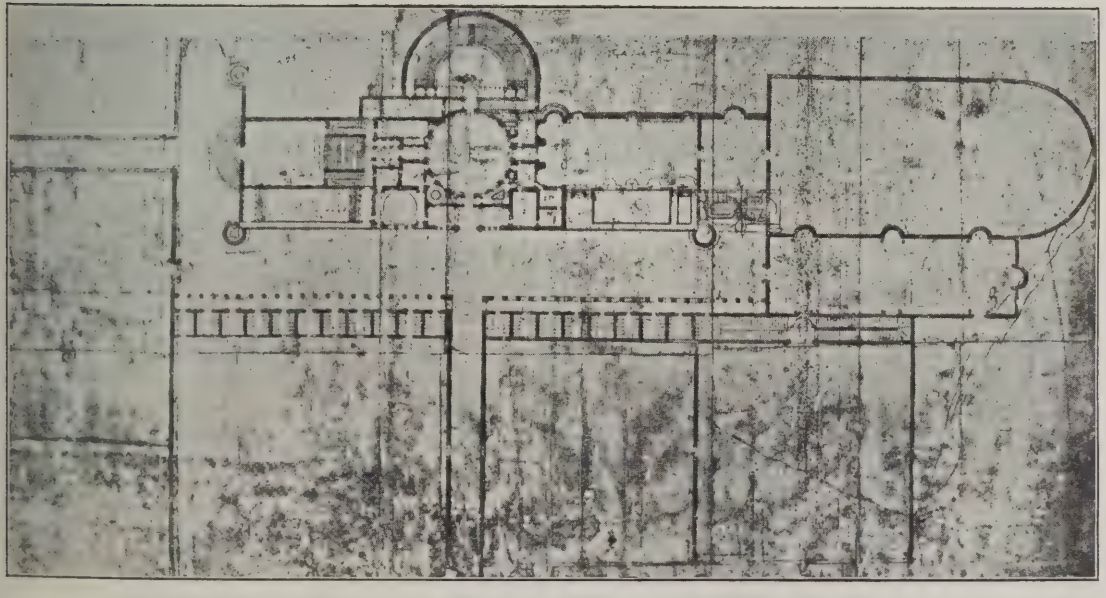
* With the exception of the illustration on page 193, the whole of the illustrations to this Paper are reproduced from the important work *Raffael in seiner Bedeutung als Architekt*, by kind permission of the author, Professor Theobald Hofmann, of Elberfeld.

its past—seizes him, and for the rest of the term of his life he moves as in enchantment, looking backward, dreaming of the past, and vowed—as far as in him lay—to reproduce it. Not so Da Vinci, however. His ideals were in the future—so far before him that we have not even yet realised some of them.* "He is the forerunner of an age that has not even yet arrived. He dreamt of giving mankind, by means of science devoted and subservient to art, the empire of the world. Between the man and his dream, time is lessening the distance, but the meeting is not yet. He passes beyond art and stands upon the very edge of infinity—face to face with the insoluble and yet forever questioning. He hints at more than we even yet know." He exercised the most unbounded influence on the world of his day—was painter, poet, sculptor, architect, mechanist, mathematician, philosopher, and explorer. He also studied botany and anatomy, was an admirable extempore performer on the lyre, and the first scientific writer on his special art of painting. If we ask for evidences of this extraordinary versatility and ability we are given in answer a few blackened canvases, the bedaubed fragments of a ruined fresco, and the witchery of a smile. The manuscripts of Leonardo da Vinci are the chief existing proofs of that extraordinary talent with which he has been credited from the time of his earliest biographers downwards. At Milan—in the Court of Ludovico il Moro—the two men, Bramante and Da Vinci, came together and were friends. They were the Court painters and engineers: they organised the *fêtes* of the regent, the duke, and the nobles; designed the costumes, planned the machinery. Leonardo has left schemes showing how a city should be laid out—one by an ingenious system of canals, one by having the roads in two stories—the ground floor for goods, carriages, pack-horses, and common people; the other, on the first floor, reserved for people of quality. The sanitary conveniences occur close to the stairs that connect the two routes, and the city is to be placed either on the seashore or where there is a wide river of sufficient current to carry far away its rubbish and its sewage. It is easy to suppose that such projects were done by the two friends in concert, and that each by suggestion and diagram illuminated the other. For sixteen or seventeen years they lived side by side. The Court at Milan was one of splendour and of song; and the chief theme of its song, and the object of the gallant adoration and service of all, was the child wife, Beatrice d'Este, who at fifteen came to Milan to be Il Moro's bride. To this girl of tuneful Ferrara, trained from childhood upwards in all the æsthetic traditions of its famous court, an atmosphere of poetry, music, and art was as natural as the air she breathed. With that full and eager vitality which she shared with her father—Duke Ercole—and her sister Isabella of Mantua, she sought all beautiful and joyous things. In the court of her rich and indulgent lord she could satisfy every desire. During his regency Ludovico spent enormous sums on the various works which he undertook in the castle. He formed a vast piazza around it, in the midst of which was to stand Leonardo's great equestrian statue of Duke Francesco. The clay model of this statue was, in fact, set up there on the occasion of his sister Bianca Maria's marriage with the Emperor Maximilian, and remained there till, with the passing of Il Moro's ephemeral glory, it too perished for the wanton amusement of a foreign invader. When the death of the Duke Gian Galeazzo removed the last shadowy limitation of Lodovico's sovereignty, the usurper pressed on with new eagerness the incessant labours of his architects and engineers on the great building. The Rochetta was finally completed, and among many other alterations and additions, a set of exquisite camerini opening into a loggia was built across a bridge over the moat on the north-east side of the Corte Ducale. Both Leonardo and Bramante were employed by him at this time for various works in the castle, and Leonardo was further charged—as painter—with their decoration. The two sisters were in constant correspondence, and one of the subjects of their letters was the boudoir, the set of rooms and their outlook from the windows, and the privy garden that Isabella of Mantua had devised and had

* Edward McCurdy: *Leonardo da Vinci's Notebooks.*



VILLA MADAMA. PLAN COMPILED FROM VARIOUS DRAWINGS BY GEYMÜLLER.



VILLA MADAMA. PLAN MADE BY SAN GALLO, IL GIOVANE.

made for her pleasure in the castle there. This—so far as I know—is the first example of the picturesque sought for deliberately—an appreciation of the beauty of Nature, moulded under the careful hand of man into studied balance and symmetry of shape, as a thing of beauty and joyance—apart from its material service to the appetite of man. Hitherto a garden is a fruit garden or so much shelter and shade from the elements: a thing to use, but not to treat as a beautiful picture. Isabella's treatment of the room and the garden found full response in her sister's breast. Besides her own particular camerini, her husband's palaces and country seats, the gardens and orchards round the castle were made so beautiful and so well tended that they were called earthly paradises.

Lorenzo de Medici had formed his Platonic Academy amid the groves of his villa Careggi, outside Florence's gates; but I do not gather from the accounts of them that there was any special attempt to develop the beauty of Nature, but mainly to take advantage of her attributes, such as shelter and shade and the refreshment of verdure. When the crash at Milan (4th April 1500) came—after Beatrice's death—Da Vinci sought the patronage of the French king, and Bramante went to Rome. It was not his first visit there. He had already been studying and measuring the ruins of the Imperial masterpieces in the Eternal City, and the fruits of his researches were taking shape in the palace he was building there for the Cardinal Riario—now known as the Cancelleria—and he quickly found employment for his active and suggestive mind. He built the cloisters to Sta. Maria della Pace, and when, under Pope Julius II., the scheme (after a lapse of nearly half a century) of the rebuilding of St. Peter's was again taken up, his design for the new basilica was adopted. Julius, in 1505, had summoned Michael Angelo to Rome, and commissioned him to execute his tomb, which, according to the design approved, was to be carried out on a hitherto unexampled scale. Already the old church—injured by time and fire—was in process of reconstruction, so far as its eastern termination was concerned. Nicholas V. had determined on rebuilding the whole, and in 1452 he began the tribune, from the designs of the Florentine, Bernardo Rossellino. The new church was to have the form of the Latin cross, and the choir was to be rounded internally, showing a half-hexagon outside. The proportions were so adjusted that the new choir and transepts completely enclosed the corresponding parts of the old building. The walls had risen to a height of four to five feet only when the work was stopped in 1455 by the death of the Pope. Julius wanted to see the tomb erected in his lifetime, and to house the monument it was proposed to build a chapel on to the basilica specially. For this proposal was next substituted another, that the basilica itself should be modified—still keeping Rossellino's walls—to enshrine the Pope's monument; but this last suggestion was afterwards abandoned, and it was resolved to erect an entirely new edifice. A number of architects—Giuliano da San Gallo amongst the number—were invited to submit designs, and those of Bramante were chosen. Besides his work at St. Peter's he was entrusted with the remodelling of the Vatican Palace and the laying-out of the approaches and general setting to the new basilica. The architectonic treatment of buildings; the architectural treatment of the setting that environed the palace or the villa; the disposition of large spaces and districts of which the church and the house were but the predominant unit, not the sum of the many ingredients that went to make up the total, were new ideas in Rome. Up till the time that Bramante came, there had been little of this recognition of the contributory value—or the reverse—of a building's surroundings. The church and convent cloister suggested and reproduced itself as the loggia in the piazza; fountains, as at Perugia and Siena, mitigated the heat and glare of the wide stretches of blinding pavement, and played into the hands of the Town Hall and Cathedral, as a small child mitigates the formality of a crowd, giving it a sense of scale and accentuating the air of seriousness by its own playful motion. The town walls hemmed in the houses too much to permit a pleasure garden of any size to the dwelling, still less could the count afford to enclose a pleasaunce within his castle walls outside the city. At Mantua, Isabella had

made a beginning, and her sister at Milan had followed her lead, and worked on a larger scale; and both Da Vinci and Bramante had taken up this new conception and had worked at it *con amore*. About fifteen years before Julius ascended the chair, Pope Innocent VIII. had built himself a small casino in the grounds of the Vatican palace, but a good long way off, across a valley and on a rising spur of the Vatican hill, from whence a wide prospect was obtainable, and this he called his Belvidere. Since its erection a considerable number of antiques had been and still were being discovered, and Julius began to form the nucleus of the museums of the Vatican by placing the treasures there. He called in Bramante to connect this outlying pavilion of the Belvidere with the palace, so that he might enjoy the gratification of viewing his statues and other antique marbles with the comfort of being under shelter. To do this Bramante

VILLA MADAMA. VIEW FROM NORTH-EAST.

designed two galleries, which reached from the palace, bridging the valley, to the spur on which the Belvidere stands, and including the pavilion in one of its angles. The difference in levels was got over by excavation and accumulation; the enclosed pleasaunce was made in two heights; stairs and terrace walls linked the two long parallel sides about midway in their length, and the vista was finished by a colonnaded hemicycle, using the great bronze fir-cone from the ancient temple of Isis and Serapis as a fountain in its focus. The galleries were colonnaded arcades in two heights. You left the Vatican on the first floor and reached the Belvidere at its ground level. Besides these galleries there were alterations and additions to the Belvidere itself.

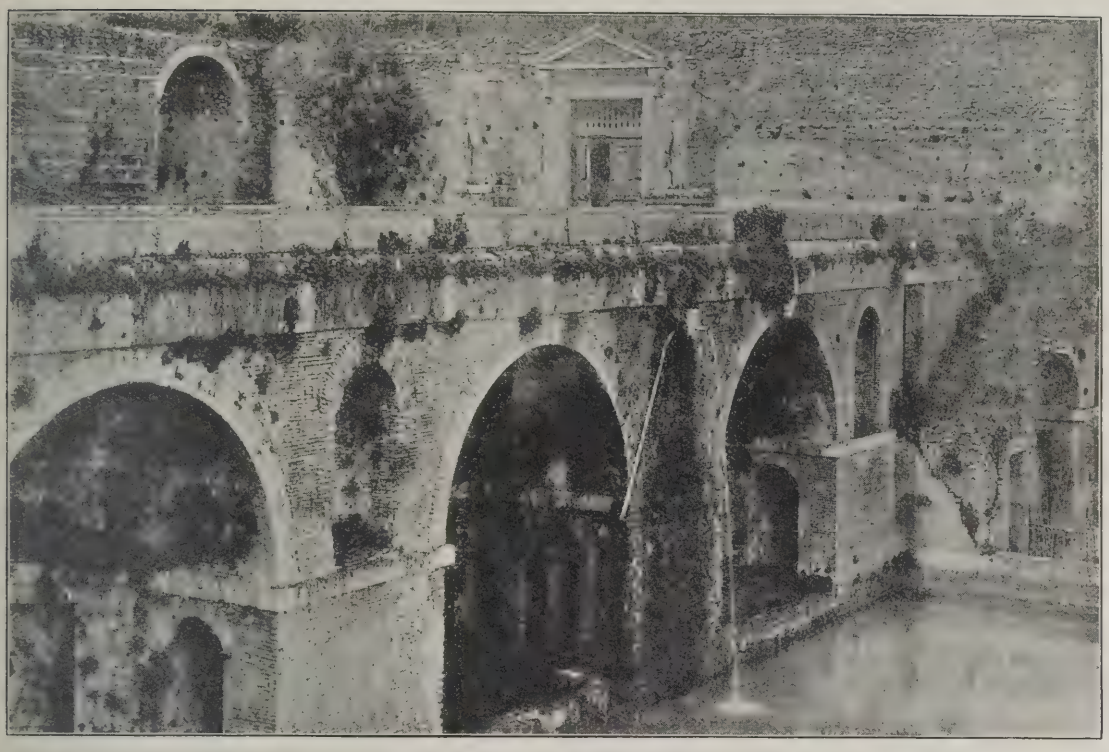
"He had made," says Vasari, "a model of all that was to have been done, which is said to have been of most imposing beauty, as indeed we may see that it must have been, from the commencement of the work, even left as it is in the imperfect state wherein we see it. Among other things is a winding stair constructed between columns, which is graduated in such a manner that it can be ascended on horseback. In this work the Doric order is followed by the

Ionic, and the Ionic by the Corinthian, thus rising from one order into the other; the whole is conducted with the utmost judgment, and finished with exquisite grace, insomuch that it does him equal honour with whatever other work he may have executed in the same place." *

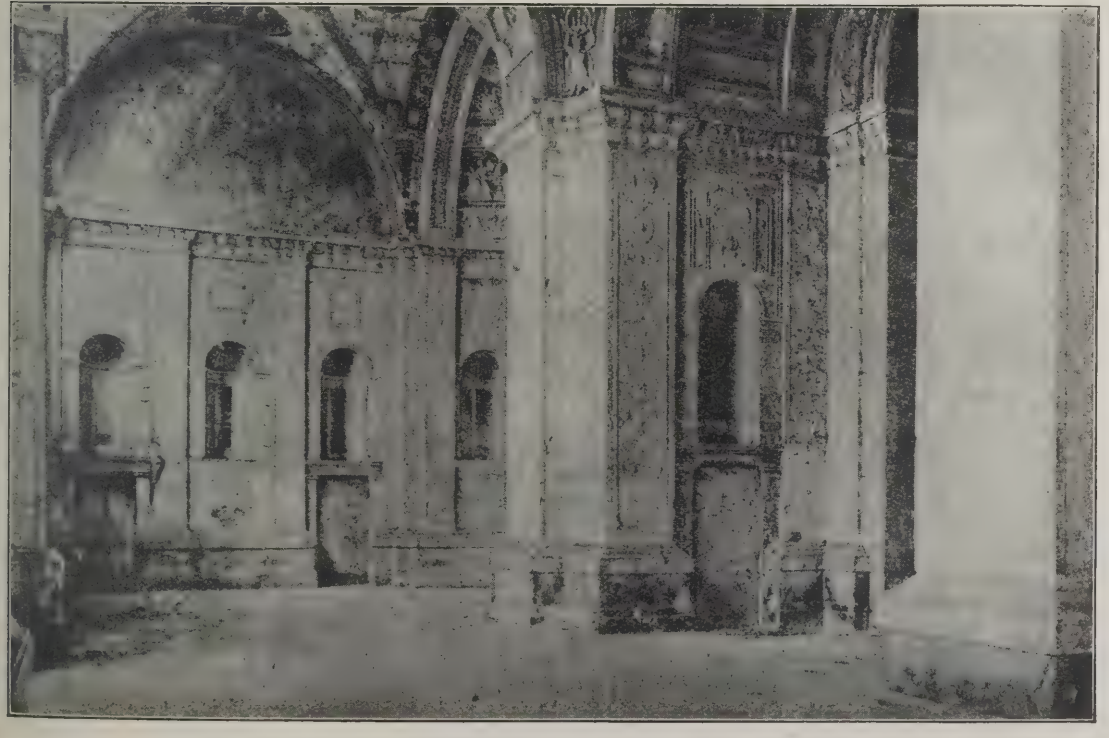
The Pope was as impetuous in the matter of pulling down and raising up in architecture as he was in warfare. Bramante, at his instance, made plans for entirely restoring and rearranging the Vatican palace, "nay," to quote Vasari again, "such was his (Bramante's) boldness, seeing as he did the resolution with which the Pope accomplished important undertakings, and finding the desire of the latter to coincide with his own purpose and wishes, that hearing his Holiness express the intention of demolishing the Church of San Pietro, to construct it anew, he made numberless designs to that end, and among these there was one which astonished all who beheld it, and was indeed of the most extraordinary magnificence and beauty." One of the designs shows the laying-out of the surrounding area, the disposition of the attendant buildings which are made to contribute to the splendour of the main structure both in the matter of scale and of arrangement to secure vistas and the perspective of assistant features and guardian enclosures.

"The Pope, being determined to undertake the commencement of that stupendous building, the Church of St. Peter, caused one half of the older fabric to be demolished, and set hand to the reconstruction, with the firm resolve that in art, invention, arrangement, and beauty, as well as in extent, magnificence, and splendour of decoration, that edifice should surpass all the buildings ever erected in that city. With his accustomed promptitude the architect laid the foundation of his work, and before the death of the Pope, continuing his labours to the close of his own life, which followed soon after that of the pontiff." † The first stone was laid 18th April 1506. Julius died in 1513 and Bramante (aged 60) in the following year, leaving in his will the instructions that his friend Raphael should carry on his work at St. Peter's. They had come—both men—from the same country, Urbino; and Bramante had helped Raphael substantially with the architectural backgrounds and details to his pictures and frescoes. He was now, at Bramante's death, 31 years old, and his record so far was as follows: Both his mother and father had died in his childhood. His first instruction in the painter's art he had received from Timoteo Vite, a little known but very able artist. After that four years' apprenticeship to Pietro Perugino at Perugia. Then he had gone to Florence. Like all the other young painters of his time, he had copied and studied Massaccio's frescoes in the Brancacci chapel; had come under the influence of Fra Bartolommeo, in the matter of composition; and Leonardo da Vinci, in the matter of chiaro-oscuro; had been profoundly impressed by the rival cartoons for the decoration of the Council Chamber; had already executed various commissions in oil and fresco given him by monks and leading citizens in Florence. Just before he had arrived Michael Angelo's statue of David had been placed in the Piazza, and the sculptor himself was at Carrara getting the marble for the Pope's monument. From there, in 1508, he was summoned by Julius to come and paint the roof of the Sistine Chapel, and Bramante at the same time invited his young compatriot to come also to Rome and he would see what could be done for him too at the Vatican. Raphael's master—Perugino—was painting there in the Sistine Chapel, and Julius intended to have the Papal State apartments decorated, handing over the commission to Perugino, Bazzi, and other painters of Umbria and Siena. Both Michael Angelo and Raphael set to work promptly. The spaces originally allotted to them were greatly exceeded. Their work became paramount, and swallowed up much that had been already painted. The Pope, in whom age seemed incapable of diminishing the fiery impetuosity of his temper, although it was ever reminding him that the span of his life was nearing its end, spurred on his men with feverish eagerness to see the results of his undertakings before he died. He could not wait for the proper excavation and foundations for the new temple of

* Vasari, "Bramante." Blashfield & Hopkins' Edit. † *Ibid.* George Bell & Sons.



VILLA MADAMA. TERRACE AND GROTTOES.



INTERIOR OF LOGGIA, LOOKING EAST.

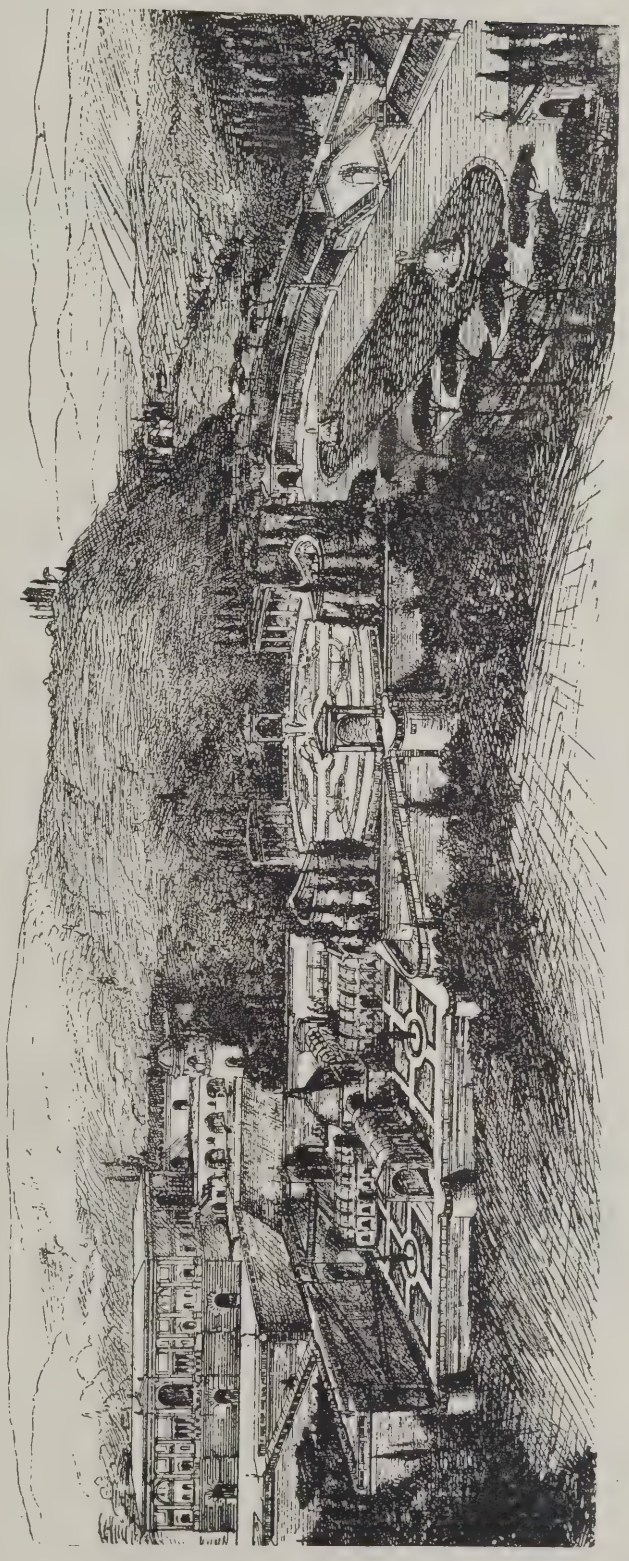
St. Peter, or for the extensive earthworks and galleries to the gardens at the Vatican. He could not wait for the completion of the Sistine roof; threatened to have Michael Angelo thrown from the scaffolding if the painting were not finished at a dash; had part of the vault uncovered so that he might taste something of the splendour that was being prepared. Bramante lived to see two of the stanze completed and the scheme for the frescoes at the Farnesina well under way. Raphael had completely justified the favourable estimation the old man had held of him. He had expanded under the warmth of approval from Pope and Cardinals; he had caught something of the impassioned loftiness of Michael Angelo's ideals. He could be trusted to hand on—undimmed—the principles that had actuated him, Bramante, in his pursuit of realising the grandeur that was the dominant trait of antique Rome.

The new Pope was a young man of 37, Giovanni de Medici, who ascended the chair as Leo X. and who posed as a more ardent and better appreciator of the arts than his predecessor. His brother, the Giuliano of the Medici Chapel in Florence, came with him to Rome to help share in the profits of the Papacy, and also his cousin Giulio, who became eventually Pope Clement VII. In Giuliano's train was Leonardo da Vinci. Leo looked coldly on him, and could hardly be persuaded to give him a commission. Leonardo felt shelved. Rome was in the hands of younger men. He was thirty-one years older than Raphael, and twenty-three years the elder of Michael Angelo. After a short stay at the ungrateful Court, he left Italy for ever, taking service under Francis I. at Cloux, near Amboise.

The Medici motto was, "Let's suck out the fat of the Papacy, since God has given it to us." Leo had made his cousin Giulio a cardinal immediately on his accession to the Pontificate, and the cardinal set about devising a country retreat from the hot dusty streets of Rome, the noise and tumult of its inhabitants—outside the city, a mile or so away, on the slopes of Monte Mario, where, amid the silence of the groves and the cool splash of falling waters, he could build himself the *ne plus ultra* of a pleasure house, both in beauty, in sumptuousness, and in the scholarly treatment of its decoration. Chigi's Farnesina, in the Roman suburb across the Tiber, was to be outdone—*redeant Saturnia regna*. The Medici were patrons of scholarship. Literary eminence was a stepping-stone towards the hat. The atmosphere at the Vatican was redolent of polite learning. The classics were the creed and the ideal of the high priests of Christendom. Giulio himself was a scholar, and enjoyed the society of men of letters and antiquarian research So the ancient authorities were consulted as to what constituted a patrician's country residence. Horace was consulted; Cicero referred to; and in Pliny's letters a mine of information was dug into and quarried.

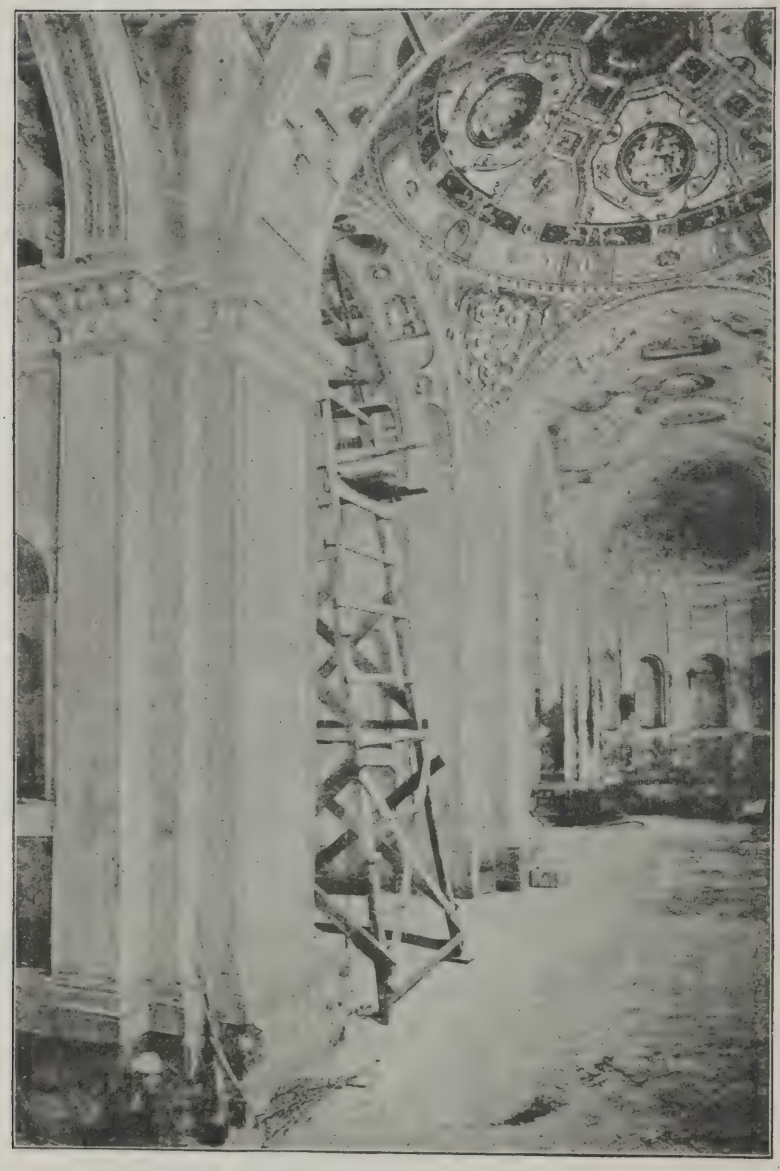
The site chosen for this pleasure house accorded well with Pliny's description of his country place in Tuscany. "My house," he writes, "commands as good a view as if it stood on the brow of the hill. You approach it by so gradual a rise that you find yourself on high ground without perceiving that you have been making an ascent. Behind, but at a considerable distance, is the Apennine range, from which on the calmest days we get cool breezes. The river winds through the midst of the meadows, navigable only in winter and spring, and then conveys the produce of the neighbourhood to Rome. In summer it shrinks to nothing, and leaves the name of a great river to an almost empty channel. In autumn it again claims its title." The remainder of the letter is occupied with a very detailed description of the plan and the arrangement of the house. We find that everything was on a splendid and luxurious scale. There are summer and winter rooms, bath and dining rooms, a tennis court, a hippodrome, alcoves of marble in the gardens shaded with vines, and fountains and little rills in all directions. The garden was laid out in a formal manner, with colonnades edged with box and shrubs cut into different shapes. "From the terrace you descend by an easy slope to a lawn, and on each side of the descent are figures of animals in box facing each other." Such was the model on which the cardinal's pleasure house was to be fashioned.

Raphael made him various designs, and lived long enough to see the actual building started and the terraces beginning to shape themselves. His mind—eager to grasp and assimilate the word-pictures of the learned authorities poured freely into his ears—saw the possibilities of house and landscape gardening, and at once began to materialise them. He had gone through similar experiences before. He had painted the "Disputa" and the "School of Athens"—the one an exposition of Christian theology, the other of Greek philosophy—turning to the poets and the humanists for the intellectual scheme of his compositions. Bramante had provided him with the splendid architectural setting of the fresco. At his elbow stood Castiglione, Bembo, Bibbiena, and other scholars eager to give counsel and assistance. I picture Raphael's studio to have been a kind of arts club, where all sorts of work were going on and all sorts of discussion and argument simultaneously. Courtiers and cardinals, as patrons, had the *entrée*, whilst scholars and literary men were welcomed for the sake of the information they could provide. The pages of Apuleius had been conned and made to yield the tender story of Cupid and Psyche, and the rich Siennese banker, Agostino Chigi, was having her wanderings and adventures painted on the walls of his saloon. The pages of the Bible were being turned to provide pictorial material for the new loggie built by Bramante to the Vatican courtyard simultaneously with the pages of the heathen mythology, and the scenes from Holy Writ are garnished with grotesques, classical deities, and profane monsters, with stupefying indifference to the incongruity of such a medley. Raphael had no time to



RESTORATION OF VILLA ACCORDING TO GEYMÜLLER.

brood over the significance of things. The amount of business going on in his workshop was tremendous. He was carrying on the painting of the Stanze, the work in the Farnesina, the cartoons for the tapestries to be hung in the Sistine Chapel—an all-important competition with Michael Angelo; was responsible for the conduct of the work at St. Peter's, and had undertaken the immense task of reconstructing Rome. His jurisdiction included the country ten miles round, he had control over all the excavations, and we are undoubtedly indebted to him for the preservation of some of the most interesting antiquities of the city. A year before his death he gave in to the Pope a report concerning his charge, in which he eloquently deplores the barbarian invasion and the vandalism of pontiffs, who in their turn and for their own purpose destroyed the ancient monuments.



INTERIOR OF LOGGIA, LOOKING WEST.

In place of this destruction he proposes to undertake the restoration by measurement, ground plans, cross sections and elevations of the buildings of the Romans. This tremendous archæological undertaking aroused the greatest enthusiasm, and the loss of Raphael the antiquary was as great a blow to the circle of Leo X. as that of Raphael the painter. The author of the report speaks with true Renaissance contempt of Gothic architecture, and with respect, but also with moderation, of the buildings of his own time. A throng of pupils surrounded him. At his advice they studied and measured the ruins of ancient work, and especially the examples of internal decoration that were coming to light owing to the excavations that were being made for the discovery of statues, bronzes, Greek pottery, medals, &c., in all the likely spots in and about Rome. Benvenuto Cellini talks of the Lombard peasants who used to come and dig the vineyards, and were followed by collectors and curio hunters to pounce upon whatever might be found in the soil. Antique medals, cameos, and sometimes precious stones were amongst the

finds. He bought a dolphin's head cut out of an emerald, the head of a Minerva in topaz, a cameo on which was cut a Hercules binding the three-headed Cerberus, which Michael Angelo himself pronounced unsurpassable. The remains of celebrated villas, of the few rooms remaining on the Palatine, of the tombs and chapels scattered up and down the city and the campagna, were measured and sketched, and profiles of their mouldings taken. The ancient use of stucco

LOGGIA—VIEW OF CENTRAL DOME.

enrichment was thus discovered. Raphael was quick to seize upon the new possibilities of chamber decoration that this modelled stucco enrichment seemed to promise, and also on the fanciful painted motives that were found on the walls of the excavated rooms. Under the hands of two of his pupils—Giulio Romano and Giovanni da Udine—the walls of the Villa Madama were encrusted with this filagree work, and the charm of this decoration led to its wide acceptance in Italy, and soon afterwards in France. Leo X. had the loggia of his palace embellished in the same way under Raphael's directions, and his pupils turned to useful account the studies

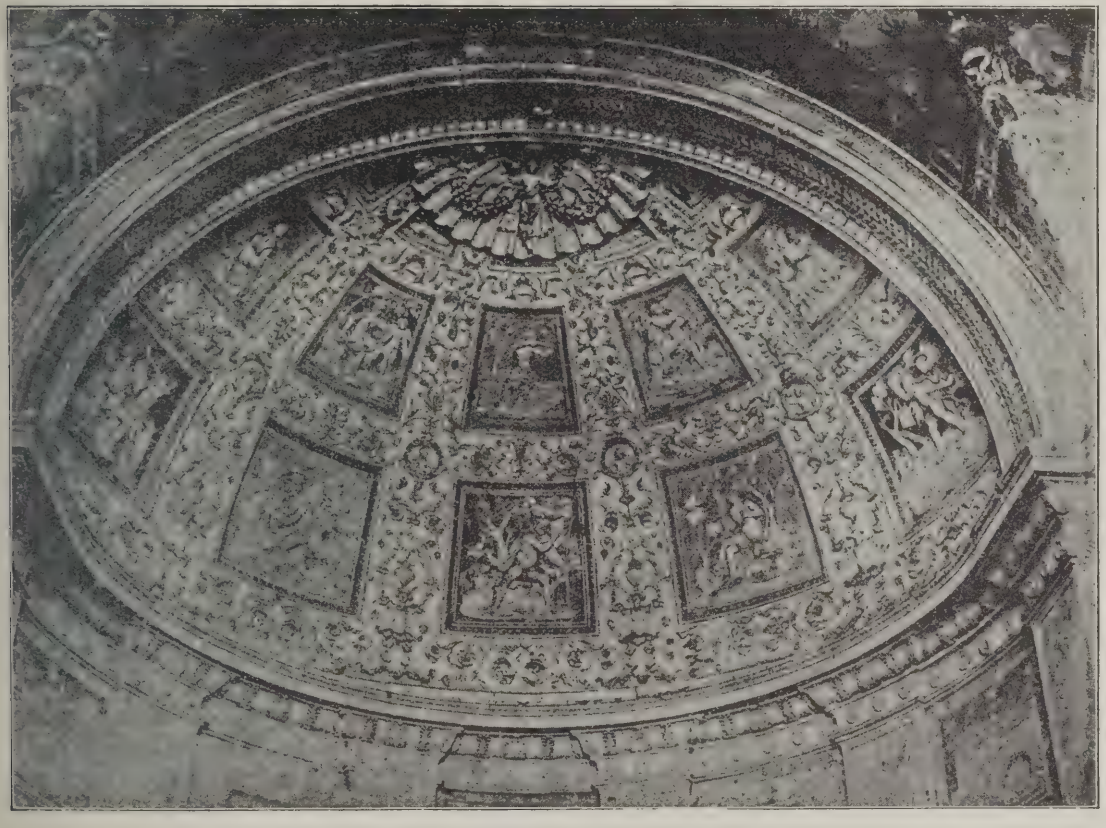
that they had made in the Sistine Chapel, on Trajan's Column, and elsewhere by making them reappear on the medallions and in the panels of the Vatican Loggie. A frequent visitor in Raphael's studio would be Peruzzi—who, as well as Raphael's pupils, was covering the walls of the Farnesina with frescoes. I take this studio, this arts club, to have been the well-head from which gushed forth that stream of pleasure residences that spread all over Italy and France and reached to us in England.

The Villa Madama, after Raphael's death, was carried on by Antonio San Gallo the younger, as far as construction was concerned, Giulio Romano and Giovanni da Udine fashioning the decoration. The villa was never finished in its entirety. Pope Leo died most unexpectedly at the end of 1521, after a reign of eight years, aged only 45. The next Pope, a severe and ascetic Fleming, spread terror and dismay into the hearts of polite Rome by his grim disapproval of every form of luxury and the arts. His tenure of the chair lasted little longer than a year, and then our Cardinal Giulio found himself elected Pope, and took the name of Clement VII. The villa was now no longer of the same importance. His cousin had rioted away the hoarded supplies of the Papacy. Trouble was brewing over the horizon in every direction. We are within a few years of the fearful sack of Rome. Eventually the villa came into the possession of Margaret of Parma, daughter of the Emperor Charles V., and it is from her that it derives its name of Villa Madama.

But this attempt of the Cardinal's was the beginning of many other such undertakings. The discussions that must have raged round it—the ideals as formulated by Raphael, by his pupils, by the literary authorities, by the rich patrons who crowded the Court of his cousin, Leo X., at the Vatican—helped to constitute this building as a model of what a country retreat and pleasure house should be, so that when, after the death of Raphael, his school was dispersed, and, after the sack of Rome, all employment for artists was for some years in abeyance, Baldassare Castiglione was able to pick up Giulio Romano and introduce him to the Gonzaga at Mantua, and Giulio Romano was able to fire that prince with a desire to have also a pleasure house of his own just outside the walls of Mantua. The ground where the horses were stabled and trained—the Gonzagas were great lovers of horseflesh, and prided themselves on the superlative merits of their horses—was devoted to this purpose, and thus the well-known Palazzo del Tè came into being. All round Rome, at Tusculum, on the Alban hills, princes and cardinals took to building in after years these country mansions, with elaborated gardens, fountains, terraced walls, and sheltered arcades, and gradually a race of water engineers sprang up to construct the water jets, cascades, and hydraulic surprises that struck Evelyn's fancy so much and won his admiration when he visited Italy in the days of Oliver Cromwell. Henry VIII.'s palace at Nonesuch, Shakespeare's reference to pleached alleys, Bacon's directions for laying out the gardens to a stately house, derive from this initiative of Cardinal Giulio's as materialised by Raphael, and behind Raphael stand Bramante and da Vinci.

The architecture of the Renaissance, though intensely personal as compared with the product of the Middle Ages, reflects in a subtle and sensitive way the tone of thought and manners of its time. We see Italy losing its federal sense, its republics becoming personalities, its personalities becoming princes, its princes endeavouring to become supreme, inviting the foreigner, the Spaniard, to assist in their schemes of mastery and ambition, who in the end becomes their master and supreme. We see the Papacy returning from its exile at Avignon, grasping at the sword of temporal power and wielding it, precipitating upon itself by reason of its political intrigues the sack of Rome. We see individuals, instead of communities, becoming patrons of literature and the arts, and the literature and art in consequence becoming a specialised cult, appealing to the scholar and the connoisseur instead of the general public, till at last we reach, in our own country, the climax in such a man as Johnson's Lord Chesterfield and the disdainful architecture of the eighteenth century.

The artists of the Early Renaissance wore their scholarship lightly. They played with the result of their researches among the antiquities of ancient Italy. The scholars were more serious and more busy. They were digging in the long neglected and disused quarries of classical literature, and were bringing to light the stores of material they found there—good, bad, and indifferent; their enthusiasm in this treasure hunt completely mastering any critical faculty they possessed. All the ore was gold, and the veins ran wide and rich. It was not till the supply began to run short that critical assaying began, and writers like Ulpian, Quintilian, and Silius Italicus were deposed from the equal thrones they shared with Cicero, Virgil, and Tacitus. The Greek literature, so sedulously cultivated, carried its students a step farther away from the common run of educated men into a paradise with gates to it. To the ordinary



LOGGIA—THE HEMICYCLE AT THE WEST END.

individual, in Italy especially, Latin was the tongue in official usage, and the tongue in which commerce and foreign correspondence were transacted. The artisan was familiar with it, the Mass was recited in Latin, contracts were made, bargains recorded, edicts published in Latin, the pleadings in the law courts were in Latin. They considered themselves the children and inheritors of the Roman Empire, and to recover some of their past glory was a most natural aspiration. As a nation this was denied to them by conquest—local ambitions prevented any permanent or complete scheme of federation—but in art and in letters it was within their grasp to emulate and reproduce the achievements of the past. At first there was no idea of reproduction. The poets used the heathen mythology of Virgil and Ovid as so much machinery for their own Christian allegories and revelations. The architects borrowed the forms they

found on the ruined theatres, triumphal archways, baths, and basilicas, as so much elegant embroidery to the buildings growing up under their hands, treating them as so much theatrical property to be applied for the purpose of giving a classical setting to the everyday incidents of their lives.

But with the introduction of a critical examination into the past styles of arts and letters, and the new learning caused by the flood of Greek manuscripts that heralded the fall of Constantinople, artists and scholars were exhorted to follow the ideals discoverable in the relics and literature of the Golden Age of the Roman Empire. They were pressed to become students of "style"; their patrons considered themselves as the arbiters of what was right, and the standard of their measurement was the faithfulness of the artists' reproduction of the times and attributes of that age. The Augustan Court was revived, the Pope posing as the premier consul, the cardinals and princes as so many Mæcenases, and life was again to be as it was fifteen hundred years before. But, as past periods cannot really be brought to life again, amongst much scholarship that was intrinsic and earnest there was much also that was only ostentation. The play-acting element was strong. Life at Court passed amidst pageantry as well as political intrigue and warfare. Moreover, such matters as diplomacy, the conduct of State affairs, and details of business are naturally private matters, kept as quiet and secret as possible, whilst the outward and joyous aspect of life was emphasised ostentatiously to mask the anxiety and serious threatenings of the shifty negotiations requisite to keep the doubtful equilibrium of power stable a little longer. Consequently we find in the architecture of the palaces a tendency to become more and more dramatic, more adapted for splendid shows and crowded receptions. Only the favoured few, of course, could inhabit these sumptuosities. Ordinary folk made the discontented best of the careless street architecture so far as use was concerned; and gave up any idea of beautifying their own holdings, partly from inability to understand and enjoy the superfine scholarship of the palaces, and partly also because the standard of carved and painted enrichment was so high that such work was generally beyond their means, and as a commercial investment (owing to the ravages of time and violence of street tumults) a bad one. Technical dexterity was greatly fostered by the connoisseur. It was a quality which (not being an artist himself) appealed to him, and of which he felt himself qualified to judge; and all the second-rate artists were ready to encourage and instruct him by devising canons, rules, &c., for his guidance. Catch-words sprang up. One hears of the "marvellous foreshortening" of the figures in So-and-so's pictures, "the beauty of correct proportion" in So-and-so's arcades, "the movement and finish" of So-and-so's marbles. Vitruvius is in everyone's hands, Archimedes and Agrippa in everyone's mouth. Our friend Vasari shows Titian over the Villa Farnesina, where were the frescoes of Raphael and his school, of Sodoma and Sebastian del Piombo. What Titian thought and said of these masterpieces he does not record, but Vasari's masterstroke was to point out some enrichments painted by Baldassare Peruzzi to look as if in relief. He made Titian pace up and down the loggia before the latter was entirely convinced that these imitation stucco ornaments were truly painted on the flat. Even in the Sistine Chapel the figure of Jonah made the most noise and won the most appreciation in connoisseur circles because, whilst the prophet appears to be leaning away from the beholder, the surface on which he is painted is really curving towards the spectator.

Such bravura drawing was the plaything merely of a man of the calibre of Michael Angelo, but it formed the whole stock-in-trade of his imitators. Raphael's figures in the later frescoes attempt the statuesque, attempt the antique. His real great powers of composition and of simple beauty are by him unrecognised. Serenely unconscious of these priceless gifts, he sets himself to acquire "the grand manner." In architecture it is the same story. The playfulness and tenderness of Bramante's creations in Milan fade away in the restrained scholarship of the Cancelleria, and are extinguished completely in the severe immensity of St. Peter's.

Michael Angelo's vestibule to the Laurentian Library can scarcely be described as playful, but at any rate it is not priggish; while his completion of Bramante's walls to St. Peter's is hidebound and priggish to a wearisome degree. In the matter of grandiosity he strove to go one better than Bramante, and we may confidently consider ourselves as vastly the losers by this attempt at gain. Brilliant, glittering, licentious, society in the days of Leo X. spent itself on trifles and frivolous amusement, with idle profusion of gold scattered alike on the deserving and the undeserving, the latter, of course, getting the lion's share of the indiscriminate shower, while the superhuman impenetrability of the Inquisition and the Spaniard that was rising, like the fabric of St. Peter's, with merciless strength and stony pride, formed the enclosure walls that hemmed it in and made each individual member, like the human vermin beneath the huge dome that covered the final exposition of Papal pomp, to seem but a mere crawling insect beneath the immensity of their powers and their embrace.

The poor cardinal reached the summit of human aspiration, only to find his position there one of disappointment, and even a menace to his life. Nothing that he touched could he complete; and in the gloomy fortress of S. Angelo, while the scum of alien military rabble was devastating the proud city of Rome, hearing the shrieks of agonised human beings tortured for the hope of plunder and in wanton savagery, and watching the glare of burning palaces and houses, he must have looked across the wide valley along which the Tiber flowed sullenly to the hillside of Monte Mario, and commented bitterly on his unfinished pleasure house sunning itself on the vine-clad slopes, the epitome of himself and his hedonistic ideals.

DISCUSSION OF THE FOREGOING PAPER.

The President, Mr. Leonard Stokes, in the Chair.

Sir CHARLES HOLROYD, rising at the invitation of the President, said he had enjoyed immensely listening to Mr. Ricardo's learned Paper with its admirable history of the late Renaissance. He had lived in Rome altogether two winters, but he was sorry he had never been to the Villa Madama, so he had been delighted to see the plans and photographs Mr. Ricardo had shown. That the notion of the Villa—garden and residence—should have come from Raphael was an exceedingly pleasant thought, for it seemed to unite with all one's idea of his nature. Mr. Ricardo's history of the parentage of Raphael's architecture was no doubt correct, but he could not help feeling that he left out of account the architect who built the Palace of Urbino. It was sometimes said to be Francesco di Giorgio; the Palace of Urbino had a lighter touch than any work of Bramante's that he knew. It was gayer even than Bramante's work at Milan. He felt that Bramante was too learned for Raphael. Raphael, no doubt, assimilated that learning without much trouble; he could not help feeling, however, that Raphael used Bramante but did not really grow from him. Bramante was his schoolmaster, not his father. Then there was Leonardo. He felt that Leonardo was altogether beyond Raphael. Raphael imitated his painting in Florence—even tried to get his smile, but did not succeed. Raphael, he thought, never touched Leonardo in his subtlety or lightness of touch. The Roman villas, he supposed, came originally from Greek villas. He knew some of the Roman villas—Adriano and others—and they certainly showed a regard for the well-ordered garden and well-arranged surroundings, but not exactly the same regard for the up-and-down gardens, and for what Mr. Ricardo called picturesque work in the gardens. We did not know much about the Greek villas, except from Landor's conversations when he introduced Epicurus walking about and talking in them. As regards the laying-out of towns, he should like to mention the laying out of Pompeii. When he was there last he stood in the middle of the town, where the two great streets crossed. The lay-out of this thoroughfare looked as if it had been expressly dictated by the views to be had on every hand. Looking in one direction could be seen Mount Vesuvius with its cone, and the smoke issuing from it. At the other end of this long main street could be seen a beautiful little bay and a town on the rocky shore. Then down another street was a delightful glimpse of the sea, which if it had not been for a dip in the hills would have been lost. Again, on the opposite side was a very beautiful view of the Apennines. It was evident that the four streets had been laid out with the idea of these beautiful views. Leonardo's decorative work in Mantua—even the room decorations that are now restored—the knotted work on the ceilings and the elaborate foliage growths on the walls, absolutely filling the spaces, was, he thought, much more detailed than Raphael's, and much more learned. It was better work, and could not have been done in the short time at Raphael's disposal. He would like to mention a thing he had noticed at Milan over Leonardo's "Last

Supper." He happened to look carefully with his opera glasses at the two shields painted with wreaths of oak and other foliage, and found them to be the most delightful and careful work of that sort that he had ever seen. He believed they were by Leonardo's own hand. Nobody ever seemed to have looked at them: but they were there, and were well worth studying. He should like to have a good photograph of them if one was to be got. That Last Supper, too—he looked at it the other day, and really it was the greatest thing that had ever been done in paint, and represented enough work for one man's life. Mr. Ricardo seemed rather to blame the patronage system which obtained in Italy during that period. But he had always looked upon Pope Julius—the tyrant—the bully patron—as almost the best patron that art had ever had. If Leonardo had been taken up by him we should have had many things as fine as the Last Supper to see to-day. Julius got an enormous amount of work out of his men during the few years he was Pontiff. Besides, he was occupied so much with wars that when he did come and see his artists he worried them a good deal, but only for a short time, and made them get on. He did insist on getting things done, and he thought that sort of patron was rather a better man to manage than guilds and councils and committees. Mr. Ricardo was rough on the Medici in general. Leo and Clement were not good specimens of that family, but Cosimo, Pater Patriæ, and Lorenzo the Magnificent seem to have made Florence in its Renaissance aspect—they made it commercially, at any rate. He should like to point out that the Villa Madama, being a summer residence, was placed on the right side of the Tiber, and facing the Campagna and the cold winds from the hills, whereas nearly all the Roman villas were on the left bank of the Tiber, under the Apennines. The Romans would be able to sit and lounge about in the front of the house all the winter, sheltered from the wind, just exactly as they might upon the right bank of the Arno. He liked the phrase that Mr. Ricardo used, that "Raphael had no time to brood over things." That was just what he (the speaker) wanted to try and express—that Raphael's work was the outcome of the knowledge around him, which he received and used with the easy grace that characterised his painting and all that he did—his drawing, especially. He was not a great scholar, but a great executant. The studio of Raphael was not, to his mind, exactly like a club—even a Fine Arts Club. It was more like a mixture of Morris & Co. and the London University and the Office of Works. Everybody was rushing about and doing things. They were going to the Campagna under the learned auspices of the antiquaries, and copying the details of the newly discovered grottoes, and putting them into the first piece of work they came across. Villas were a beautiful arrangement of all the arts. They were architecturally designed with colonnades, they had painted rooms, and gardens full of statues and fountains worked in sculpture—sculpture that was very free and would not cost much. They were charming things; he had often felt that if we could only use sculpture like that which would not cost so much, it would be good for us and the sculptors too. Before he sat down he should like to tell them of a little visit he paid one winter at Rome to a Villa at Frascati, where from his bedroom he could see the whole plain of the Campagna. The sun was rising behind, the full moon was setting, and there was the dome of St. Peter's, like another moon, opposite, and all the valley of the Campagna was filled with mist in the early morning, which showed one that it was not really a plain that one looked at all day. From his bed in that room he could see all this, and the sea on the left, and roses round the windows. Often he blessed the architect of that room; he did not know whether the architect thought of the place where the bed ought to be, but he seemed to have made the room a most delightful one to live in.

Mr. PAUL WATERHOUSE, M.A. Oxon. [*F.*], said he should like very briefly, but very cordially, to second the vote of thanks. Rich as had been the details which Mr. Ricardo had laid before them, and intricate as had been his historical account of the artistic birth of the building brought to their notice, a yet more important thing to them was the fact that he had taken them in spirit into the heart of the Renaissance. He had often wondered why it was that the Renaissance had such a hold upon their inner being. He fancied it was not merely because the men of that age were giants—though they certainly were—nor was it merely because the Renaissance was a movement in literature as well as in art, so that it took hold of them in two ways; but one could not help feeling that the secret of that great charm lay also in the fact that they got through it a hold on two periods of the past. And even more than that. It was not merely that one entered into two phases of history, the classic and the revived classic, but it was that in breathing the spirit of the Renaissance one actually shared with the men of a past age the pleasure that they had in a remoter past. All intellectual pleasure, when we come to analyse it, really resolves itself into society in one form or another—either the society of men of our own day, or the society of men of the past. All culture came to mean that, and he thought the great charm of the Renaissance lay in the fact that we seemed to enjoy the work of the Renaissance with the very men who created it—we enjoyed to-day that which was such a pleasure to them. The best thanks they could give to Mr. Ricardo was to assure him that they had that evening gone with him into that region of pleasure.

Mr. RICARDO, responding to the vote of thanks, and referring to the Palazzo Ducale at Urbino mentioned by Sir Charles Holroyd, said he felt that Bramante had been intensely impreg-

nated with the work that was done there, and in that way it might have been handed on to Raphael, but he did not think Raphael's recollections of Urbino would be very strong, for he had left the place as a child. If, as the President had kindly suggested, his Paper had made the Villa Madama interesting to students, it was in the hopes that they might pursue the matter and make it more real to them than he had the power to do.

The Vigna de' Medici, or Villa Madama.

Mr. Halsey Ricardo's brilliant little essay on the growth of Italian Renaissance Architecture, which takes the "Villa Madama" as its text—a peg on which to hang the chain of events and of the artistic development which led to the production of the refined architecture of the early sixteenth century—was made yet more interesting by his subsequent remarks on the lantern illustrations which he exhibited. As the other business of the evening prevented adequate discussion, I venture to jot down a few remarks on the Villa itself.

I do not think that what we now see of the Villa can be attributed to Raphael. In his life of Giulio Romano, Vasari says that Cardinal Giulio de' Medici resolved to erect a palace on Monte Mario, "proposing to furnish his new building with all the beauties and conveniences of fine apartments, gardens, loggia, fountains, groves and every other embellishment that could be devised; the charge of the whole being given to Giulio. Very willingly did the latter put his hand to the work, and in due time he completed the palace, . . . bringing it to that perfection of which we shall discourse more at length."

He goes on describing the place; then says, "which was so beautiful that *many believed the first sketch* to have been made by Raphael himself." In the same writer's life of Raphael he says: "The architectural designs for the Vigna of the Pope, &c., &c. (other houses) were likewise prepared by Raphael"; but in a footnote the annotator says "commenced by Raphael, but finished by Giulio Romano, after designs of his own, which were different in many respects from those of Raphael." If we take into account Raphael's other engagements, and the above record by one who was almost a contemporary, I think we must conclude that the "*first sketch*" is as much as can be attributed to Raphael. Such a sketch may have been made and handed to his favourite pupil as an act of friendship. It is quite likely that he himself recommended Giulio Romano to the Cardinal for the work. Mr. Ricardo touched but lightly on that which now constitutes the direct value of what remains of the Villa Madama—the decoration in stucco and colour of the interior of the Loggia. These decorations are among the most beautiful remaining of that period (1523). In delicacy and invention they equal those of the Vatican Loggia; in soundness of decorative purpose and design they much surpass them. Instead of the overcharged confusion of beautiful detail which embarrasses the architecture in the latter famous work, we find in the "Madama" the colouring beautifully disposed in such bands or panels as to express the architectural form; so that, apart from the excellence of the detail and its delicate execution, it is really a masterpiece of decoration. The merit of this is chiefly due to Giovanni da Udine and his assistants. That this was the case is confirmed by the Cardinal's appreciation, "who," says Vasari, "highly esteemed his abilities, not only conferred many benefits on the kinsmen of Giovanni, but also gave him a *canonicate* for himself." This "canonicate" Giovanni subsequently gave to his brother, Paulo (also a layman), who seems to have enjoyed it for fifty-four years. One must imagine Sir William Richmond made a canon of St. Paul's, to appreciate this form of reward! The Cardinal also made Giovanni Knight of S. Pietro.

Giovanni da Udine later accompanied Giulio Romano to Mantua, where the latter's skill in the planning of gardens and pleasure-house was again evidenced, as was also the joint work of the two artists in decoration. It is sad to record that much of their beautiful work has perished through neglect during the last forty years.

J. D. Crace [*Hon. A.*].

Note.—There is a fine model of the centre vault of the Villa Madama Loggia (to scale not stated) in the Victoria and Albert Museum. It is very improperly located in a dark place.

Mr. Ricardo's Lantern Illustrations.

1. Project for the Dome at Milan Cathedral. From L. da Vinci's notebook: "Total weight of everything 4,608,000 il peso del tiburio."
2. Bramante: Sta. Maria Grazie, Milan.
3. ,, Sacristy, San Satiro, Milan.
4. ,, Cloisters, Sta. Maria della Pace, Rome.
5. ,, Palazzo della Cancelleria, Rome.
6. ,, Courtyard della Cancelleria, Rome.
7. ,, Window at angle of the Cancelleria.
8. Raphael's Virtues: Sala della Signatura, Vatican.
9. Raphael: School of Athens, Vatican.
10. Peruzzi: Casa Pollini, Siena.
11. ,, Villa di Sta. Columba, Siena.
12. ,, Villa Midi, near Siena.
13. ,, Palazzo Albergati, Bologna.
14. Raphael: Pandolfini, Florence.
15. Peruzzi: Farnesina, Rome.
16. ,, Doorway, Palazzo Prosperi, Ferrara.
17. ,, Ceiling, Castel Belcaro, Siena.
18. ,, Courtyard, Palazzo Massimi.
19. ,, Colonnade of Palazzo Massimi.
20. Raphael: Loggie to the Vatican.
21. ,, Villa Madama, view from North.
22. ,, Villa Madama, completed according to Geymüller, view from East.
23. Plan according to Geymüller.
24. Plan according to San Gallo, Il Giovane.
25. Villa Madama—from N.E.
26. ,, Terrace of Grottoes.
27, 28. ,, Interior of Loggia.
29. ,, Interior of Loggia: apse.
30. ,, Interior of Loggia.
31, 32. Giulio Romano: Palazzo del Tè, Loggia.

ST. KATHARINE'S CHURCH, ICKLEFORD, HERTS.*

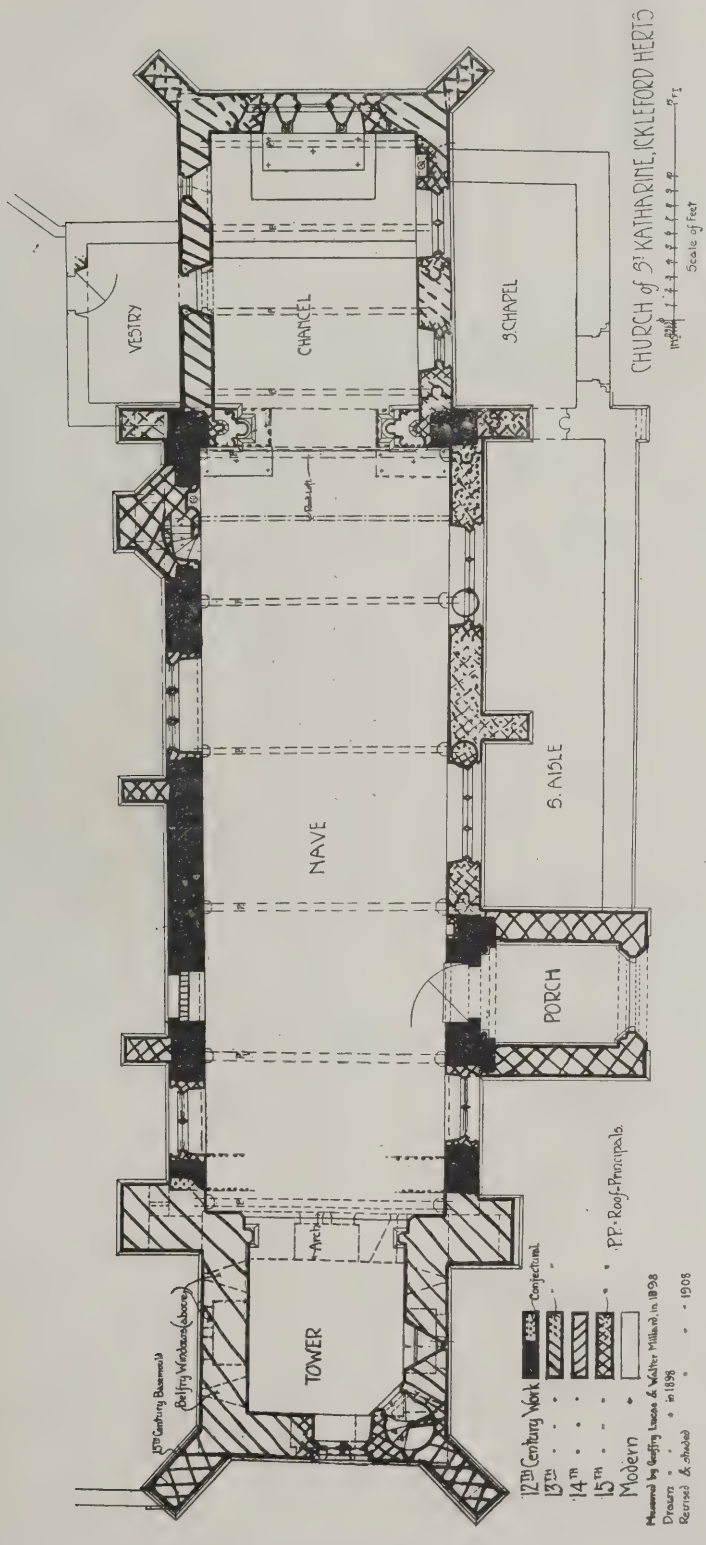
By Walter Millard [*A.*].

ST. KATHARINE'S CHURCH, ICKLEFORD, HERTS, FROM S.E.
Photographed by Mr. T. B. Latchmore before the alterations made in 1859.

SOME years ago I had occasion to attempt a very slight description of the fabric of this church; and now I will endeavour to give a reading of its structural development. Viewing the building from the south or south-east we find our reading of it as a mediæval structure rendered difficult by the addition to it of a south aisle and chapel, in compliance with modern requirements. These also give complexity to the interior. How greatly they do complicate the whole thing, as a legible historical document, may be realised by referring to the photographs so fortunately taken by the late Mr. T. B. Latchmore, of Hitchin, in the early days of photography, before Mr. (afterwards Sir) Gilbert Scott made his additions in 1858-9. From these views, and from the ½-inch scale plan that I have to show, made-out partly by the light of these photographs, we may see that the old structure was a comparatively simple composition, consisting of a long, aisleless nave, a short chancel, a western tower, and a south porch. But these various parts themselves are not all of one building-time; for each one bears evidence in its forms and features of a different time for its execution. This means that they came to be built in a certain chronological sequence; and in discovering the order of this sequence we shall be roughly mapping-out the history of the fabric through the centuries it has taken to grow into the form in which it has come down to us.

So far as I am able to decipher this history from the actual structure, I make out the order of the building-work to be something like this, viz.: (1) the nave—of the twelfth century; (2) the chancel and the tower—of the thirteenth century; (3) just one window in the north wall—of the fourteenth century; (4) the porch, the remaining nave windows and the buttresses—of the fifteenth century, also the nave roof; and lastly (5) the south aisle and chapel—of the nineteenth century.

* Read at the Church before the East Herts Archæological Society, 11th June 1908.


CHURCH of St KATHARINE, ICKLEFORD HERTS
Scale of Feet
VESTRY
CHANCEL
S. CHAPEL
NAVE
S. AISLE
PORCH
TOWER
Arch
15th Century Basement
Belfry Windows (above)
12th Century Work
13th
14th
15th
Modern
Conjectural
PP. Roof-Principals
Measured by Geoffry Lucas & Walter Millard in 1898
Drawn " " in 1898
Restored & shaded " " 1908

Amongst my reasons for venturing to assign these various parts of the building to these different centuries are the following:—The two doorways of the nave by their design and detail proclaim their approximate date as being almost certainly within the third quarter of the twelfth century. These doorways may be taken as dating the walls in which they occur; and though the nave walls have retained till to-day only these door-openings unenlarged, every one of the original window openings having been obliterated or altered out of recognition, yet we may fairly reckon this nave in its general proportions, and largely in the substance of its walls, as being the main body of the church built between A.D. 1150 and 1175. This nave must have always had its chancel, to complete the church; but I hesitate to regard the existing

chancel as being a twelfth-century one. From the fact of its being neither quite central with nor quite in line with the nave, and from other indications, including a thirteenth-century window remaining in its north wall, I conjecture that this square-ended chancel may be a thirteenth-century rebuilding of an earlier one—as so many of our existing old chancels are.

In that same century, perhaps about the same time, the tower, to hold bells, came to be added at the other end of the nave. This must have involved the removal of the twelfth-century west wall, which till then might have carried its own bell turret. The tower arch and the narrow, pointed-headed window in the south face of the tower afford, in their design, evidence of thirteenth-century date. The planning and shaping of the external abutments, built to take the thrust of the tower arch on its north and south sides, suggest that this tower may have been erected complete just clear outside of the standing west wall—to avoid disturbing the latter till the new work was up—and that the junction of the tower with the nave was then effected, the old west wall being taken down as the final operation. An alternative reading of this tower might be that the body of it is contemporary with the nave; in which case the tower arch would be an insertion of the thirteenth century—an enlargement of a narrower, early arch, necessitating the abutments we see.

The body of the tower is apparently of one building from bottom to top, its western buttresses, staircase and west window being insertions of the fifteenth century. Its belfry window-lights, too, received their present external form in the fifteenth century apparently; but their original internal arches remain unaltered, semicircular in form and square-edged. The small wall-piercings on either side of these window-heads on the north and south faces, and one to the east, are also part of the original design. The existing tower roof is hardly likely to be earlier than the eighteenth century, when perhaps a parapet may have become ruinous and been removed.

The chief piece of fourteenth-century work remaining in the church is the three-light window in the north wall of the nave, a work of the first half of that century. In its head there still remain fragments of old glass. Doubtless it came about in response to a call for more light, and more translucent colour.

To the fifteenth century I have assigned, besides the features already mentioned in the tower, the remaining old windows and buttresses in the church, and the south porch. The buttresses, indeed, might be taken for fourteenth-century works, considering their proportions, especially those on the western angles of the tower, but the southern one of these is so intimately associated with the staircase turret and the west window, both of which are of the fifteenth century, that it is difficult to see how this buttress can be work of earlier date than they are. A similar argument applies to the buttresses on the south side of the nave, shown in Mr. Latchmore's photograph, since the one there seen abutting the chancel arch must surely be contemporary with the wide, four-centred chancel arch showing in his photograph of the interior—an arch almost certainly of the fifteenth century. This arch, spanning the full width of the chancel, would of course have superseded an earlier one whose span—estimating from parallel examples—may be taken to have been about one-third of the external

width of the nave, thus giving abutments of solid walling on either side about equal in depth to the span of the arch whose thrust they had to resist. On the foundation of these pieces of solid walling Scott may have set the bases of his arch—the third chancel arch, at least, that the church must have possessed in its time.

With the chancel arch goes the rood-gallery, the staircase to which remains in the north wall of the nave, as well as the fifteenth century piscina of a

photo, would be enlargements of earlier openings. In the eighteenth century apparently—judging again from the photos—the east window got transformed into a three-light window of that time, with wooden mullions. Scott replaced this with the triplet of lights now there, for which arrangement he may have found some authority in the thirteenth-century walling.

One work of the fifteenth century, and by no means the least important in this church, remains

ST. KATHARINE'S CHURCH, ICKLEFORD, HERTS: INTERIOR LOOKING EAST.
Photographed by Mr. T. B. Latchmore before the alterations made in 1859.

nave altar that must have stood here, beneath this rood-loft, corresponding no doubt to another on the south side. A stone altar-slab, 6 inches thick, apparently from this north side, is preserved in the church. It measures 5 feet by 2 feet on the upper face and is moulded, to a large hollow chamfer, on its western and southern edges.

I suggest a three-light, fifteenth century window in the east end of the chancel in accordance with the two-light one in the south wall showing clearly in Mr. Latchmore's photo. These, of course, together with the low-side window, also showing in the

to be noticed, viz., the roof of the nave. The earlier roof, which this must replace, would have been of steeper pitch, with its apex nearly up to the string-course under the belfry windows, and its eaves well below the present top of the walls. This earlier roof was probably pushing-out the walls, the north wall in particular having a considerable outward lean. The existing roof, with its tie-beams, may have helped, along with the contemporary buttresses, to save the walls from collapse. It retains its complete set of twelve stone corbels, under the wall-pieces, vigorously carved in figure-subjects.

This, in brief, is the history of the structure so far as I have been able to trace it out from the work itself. For my conclusions I have given such reasons as seemed best worth offering. Documentary evidence should throw further light. Who will now gather such evidence?

Finally, just to take a bird's-eye view of it all, we see a mid-twelfth-century church, whose nave in greater part still forms the nucleus of the whole, having its chancel, to the east, probably rebuilt in the thirteenth century, and a tower, to the west, added about the same time; then we observe a general overhauling of the fabric in the fifteenth century, including the stiffening of walls with buttresses, the inserting of large windows and a wide chancel arch, the adding of a south porch, and the putting, on raised walls, of an entirely new, low-pitched roof to the nave. The existing chancel roof is modern, but may follow a fifteenth-century pitch, its side walls having been raised. The further expansion of the building, by the addition of a nineteenth-century aisle and chapel on the south side and a vestry on the north, brings the story down to the present day. The handiwork of century after century superimposed in successive layers, as it were, each over what preceded it, has resulted in a mass of building-work of some complexity, which affords a not unfitting subject for investigation by an archæological society.

ST. KATHARINE'S CHURCH, ICKLEFORD, HERTS: SOUTH DOORWAY, GIVING VIEW OF INNER ARCH OF NORTH DOORWAY.

MR. THORPE, CLERK OF HER MAJESTY'S WORKS (1600).

Within the last ten years a document has been brought to light at Hatfield House which may be regarded as furnishing an instance of employment of one of the John Thorpes, either father, or son as sometimes assumed; and as it may help to clear some of the controversy that has arisen at different times it is well to bring it to notice. It may prove at any rate that one of the Thorpes was a man of considerable experience.

Sir Henry Nevill to Sir Robert Cecil.

Recommends the suit of Mr. Thorpe, one of the Clerks of Her Majesty's Works, for a reversion of one of the higher places of that kind.

Paris. 6 May, 1600.

Four or five extracts only have hitherto been cited, by the late Mr. Wyatt Papworth and again by Mr. Gotch. These refer specifically, I believe, to John Thorpe, mentioning the Christian name, and point to steward's or land surveyor's work, which, of course, might have been included in the duties of the office of clerk of works.

Undoubtedly possessing a knowledge of building, there is no good reason for doubting that the person referred to in the foregoing extract also drew plans and elevations for new work, and furnished details to guide workmen in the "New Style." In such case it is clear that he would be competent to prepare drawings of existing buildings. But there has been controversy under all these heads as regards John Thorpe and the Soane collection of his drawings.

Supposing two John Thorpes, father and son, as generally held on account of dates, probably the son was the more educated. Be that as it may, while individuality remains undiscovered, it is difficult to avoid employing the singular when the Soane collection of drawings is discussed. A man of some culture, he must have studied for years: the miscellaneous collection of drawings is evidence of this, even though all may not be the work of his own hand. They appear to be a collection of measured records mixed with drawings prepared some for the execution of work, some as preliminary sketches. As there are no details it has been held that none were supplied, but this does not affect the conclusion which may fairly be drawn that Thorpe was a competent man. It is hard to believe that the mere absence of details is a sufficient reason for asserting that he gave none. This conclusion appears to be rather weak.

Feeling tolerably certain that identity may be established I have furnished what may be regarded as a satisfactory explanation of John Thorpe's familiarity with so many great buildings. Some connection with Richmond Park is instanced in one of the extracts hitherto cited about him.

That Thorpe did, in fact, make the designs attributed to him cannot be substantiated. Neither can it be substantiated that Ashburnham House was, in fact, designed by Inigo Jones. Tradition in the former instance, quoted in the "Architectural Dictionary," shows that Thorpe was a cultured man and competent; if also practical, this is strongly in favour of the view that he prepared at least some of the designs. In the latter instance, however, the work itself is convincing, and tradition actually points to Inigo Jones.

The conclusion that John Thorpe visited France, and Paris in particular, a conclusion long ago arrived at by Mr. Gotch and somewhat disputed, would seem much strengthened by the letter to Sir R. Cecil. The writer, Sir Henry Nevill, was Elizabeth's Ambassador in Paris, where he was sent in 1599 and remained but a few years. During the period of his stay it would appear that Thorpe's drawings of certain Paris buildings were made; indeed, the year 1600 which dates them is the very year of Sir Henry's letter from Paris recommending "Mr. Thorpe" for promotion in England. Does it not seem most likely that Thorpe was over there with him?

In the Paper on Ashburnham House * I have shown that the predecessor, the Dean's House, was leased to persons holding high office under Elizabeth and James I. Knowing of the Court connection and his residence in the metropolis, we should scarcely be surprised were a discovery made showing that Thorpe had a hand in altering or adopting the Dean's House for the occupation of some of these courtiers.

As a matter of fact, I believe it is Peacham's second edition (1634) which is quoted as the authority for Thorpe's location in St. Martin's-in-the-Fields. Does the first edition (1612) also mention it? In a grant, 1545 (36 Hen. VIII.), certain messuages in the tenure of John Thorp and others, including two titled ladies, but in the parish of St. Martin's-within-Ludgate, are mentioned. There is nothing to identify Thorpe, but the entry is much nearer the dates of the earlier drawings than are the editions of Peacham's book; it may point to the then residence of the elder Thorpe, and therefore be worth recording. Peacham makes clear that there were two Thorpes, father and son. I cannot discover whether Thorpe has been satisfactorily connected with Northamptonshire, but I think it might reasonably be inferred that he was descended from a family of some consequence, which would account for much. If I am not mistaken the arms he bore belonged to an old family of that county. A man of sense, as we must allow John Thorpe to have been, would scarcely have laid himself open to the

* Journal R.I.B.A., 8th January 1910.

charge of assuming arms to which he was not entitled; besides, at that time the offence would probably have been exposed.

As evidence of the varied studies or attainments of another aspirant to Cecil's favour the following extract may be instanced. The "Architectural Dictionary" gives an extract which mentions a pinnance that might be taken to pieces built by "one master Stickles" in 1596, and refers to the plan of the Ranger's or Richmond Lodge by him in Thorpe's book of drawings.

ROBERT STICKELLS to SIR ROBERT CECIL.

Understands that the Surveyor of Her Majesty's buildings intends by Cecil's favour to join his son in his letters patent "although the buildings import no such cause whereby to use men of greater judgment than they are that supply the place, yet I hope your Honour will conceive of my well meaning." He has preferred to do that which never a man has done the like: for all those works that heretofore have been done are imperfect and unjust: and his desire is to be put on his trial, either in the mathematical sciences, or in the rules of architecture, of ship building, or of fortifying, house building, or any such ingenious causes. In these he has offered to do by perfect art that which yet is undone by any. Enlarges upon the present imperfections in these arts, and on their true basis. From the manor of Richmond, 20 Aug. 1600.

The "Architectural Dictionary," under Stickells, mentions that William Spicer appears to have been appointed Queen's Surveyor in 1595. This could not have been the case, as the following entry shows; indeed the Dictionary mentions, under Spicer, that the date of his appointment was 1597.

MAY 7, 1595. THOMAS SAVELL, THE QUEEN'S SURVEYOR, to SIR R. CECIL.

As to a petition which he wishes should reach his lordship [apparently Lord Burghley]. Speaks of "the heavy delay of 4 years, partly by sickness, but specially by the vehement appetite of the Lady Gargrave, watching all opportunities to disposses me of my living."

I have little doubt that a tedious search of the Patent Rolls or the records of the household of Elizabeth by a skilled hand would result in some further discovery which would be helpful in elucidating the history of John Thorpe.

HARRY SIRR [*F.*].

LINCOLN MINSTER.

I should like to make a few comments on the papers by Messrs. Francis Bond and William Watkins, published in two recent numbers of the Institute JOURNAL, on Lincoln Cathedral, which I have read with much interest.

It is no new idea that the trefoil-headed wall arcades in front of the lancet arcades were subsequently added to thicken the walls. I believe Mr. J. H. Parker, C.B., first put forward that view. I have before me a copy of a drawing which I made for him in 1874 to show this addition—it is the junction of this wall arcade with the lavatory wall; it shows also the detached clustered pier in front of this double wall arcade. I am not sure whether or no he published the drawing; he asked me to make it to illustrate a Paper he was writing on the subject, which Paper, if written, I have never seen.

It is suggested that these walls were thickened to carry a vault; it may be so, rib vaulting was then in its infancy. Of course we now know that a vault does not necessitate a thick continuous wall; a vault requires solid piers, and given these the wall may be a mere screen, or a system of fenestration, a treatment so common two centuries later. The architect did thicken these walls, and with very good effect, but the additional thickness was not necessitated by the groining. It is a little curious that while the wall was thickened, the piers from which the aisle vaulting springs were detached from the wall and so made *less* dependent on it.

Again, I read "A Gothic vault is easier to construct if the ribs are equidistant"—meaning, I suppose, if the bays are of equal width. Be the bays equal or unequal, there is no difficulty in the construction. Our masters knew how to avoid the tame effect of mechanical accuracy. The choir aisles of Hythe Church, Kent, occur to me at the moment as a charming instance of this irregularity. One of the features of mediæval vaulting is its adaptability to irregularities of plan with enhanced effect and without in any way impairing its constructive efficiency. Much of page 38 is open to criticism, but as it is of general rather than local interest I will not dwell upon it.

The difference of weight between a mediæval oak roof and stone vaulting is by no means so great as is suggested. I worked it out long ago, but have not the particulars before me now. Apart from the piers, the groin ribs and cells are frequently lighter than a substantial timber roof. Any additional substance given to the piers would be a source of strength, not of weakness.

I discover nothing unusual in the abutment provided as shown on the transverse section of the choir. By the way, that section does not show how very slight is the projection of the choir clerestory buttresses, and how narrow the flying buttresses are—so thin that they can do but little to resist the thrust of the choir vaulting.

I believe the general idea some thirty years ago was that St. Hugh carried up the great transepts and the choir only to the string-course over the arcades, and there the work was left for a time with possibly a temporary clerestory for light. Assuming that a wood roof was put on or provided for, this might account for the three rough arched heads in each bay of the choir. I have no recollection of the "open arch" described, but I should very much doubt its having ever been a clerestory window. The entire suggestion, although plausible,

is impracticable. That fenestration *ad infinitum* shown on page 44 is utterly opposed to the spirit of thirteenth-century work, and even two hundred years later it would not have been so bald and uninteresting or so little in accordance with sound construction as the drawing on page 44 shows it. It looks perilously insecure; indeed, constructed as it is of two skins and resting upon detached legs of no great substance, it could not possibly stand in such an exposed situation.

If we accept the view above quoted there is no longer any difficulty as to underpinning—a description of work rarely resorted to in those days, for there was nothing to underpin, the triforium and clerestory being commenced and completed at a later date, possibly not until after the fall of the central tower. The character of the choir groining certainly points to a date not earlier than the second or third quarter of the thirteenth century.

So far as I remember Ripon, and after referring to my sketches, the work there is in every way inferior to the Lincoln work. The chapels of the choir transept were no doubt designed by the builder of the transept itself. The idea that the end bay of this transept was at first only one story high is quite new to me and is most interesting. The suggestion in the hands of the authors of the article becomes practically a certainty, and goes far to explain the treatment of the north end of this transept. The fact that the windows alluded to had been glazed or prepared for glazing was known to me. The tower hypothesis was, I believe, given up.

It is more difficult to accept the suggestion that the oblong chapel east of the north bay of this transept could have been intended for a chapter house. The base mouldings now existing, if not (as I think they are) of the identical section of those to the polygonal chapter house adjoining, are of similar character and seem to indicate that this chapel and the chapter house were carried up simultaneously. By the term "Chapter house" I mean the main structure only, the centre pier from which the groining springs—the groining, with its springers, and the flying buttresses and the piers from which they spring, are obviously later.

The Lady Chapel idea seems not improbable, there being otherwise no constructional Lady Chapel at Lincoln, but if so the difficulty arises: when and why was it destroyed? I cannot agree that it was held by almost everyone that this Chapel superseded an earlier apsidal one similar to the one on the south side. The existing foundations, evidently original, disprove this. Hollar's somewhat crude drawing does not represent an ornate exterior, and seems rather to suggest a building of more than one story. If ever a Lady Chapel, it would appear to have fallen into decay, and to have been repaired with little regard for its original character and adapted to some other use, we know not what.

The plan of St. Hugh's apse.—It appears to be taken for granted that this is Mr. Pearson's restoration of the chevet. It is not so. This plan was made by Mr. J. J. Smith, for thirty years clerk of works to the Dean and Chapter, simply to show the existing foundations. Nothing more.

When I saw these foundations laid bare there was no indication of a triangular "spur"—such a feature would be unusual. Mr. Smith represented exactly what he found, and did not attempt to restore or assume anything. The bit of arcade (I have seen it), if *in situ*, and I think it is, is a puzzle. The authors of the Paper may be right; but no foundation for such a feature exists now.

As to the setting-out of the chevet I have seen sundry similar diagrams for other buildings, and have come long ago to the conclusion that they are like statistics, you can make them prove anything you like. You begin, of necessity, at the wrong end. You have the facts and invent the theory to fit them. The chevet treatment soon fell into disuse in England, but we must not forget Westminster Abbey before the erection of Henry VII.'s Chapel, or Canterbury Cathedral prior to Becket's Crown. There are, too, existing foundations of a very large Abbey Church at Muchelney, Somerset. I have seen it and have a plan, but cannot lay my hand on it just now. I believe those all had, or were designed to have, a chevet of five chapels.

As to dates, I think most people would now agree with the authors in the main. There might be a difference of opinion as to whether the groining of the choir or of the nave is the earlier; that of the great transepts is certainly earlier than either of them. When the vaulting of its northern arm was repaired in the seventies I had an opportunity of examining it closely. Its character, both as to detail and masonry, proves this. I have always regarded the Chapter House as 1210–20 (Hugh of Wells).

There is no mention of the large $\frac{1}{8}$-in. scale plan of the cathedral made by Mr. J. J. Smith. He spent many years upon it. It is a most elaborate plan, made bit by bit from large scale drawings plotted on the spot. This plan is, I believe, now in the Cathedral library.

JOHN CODD [*A.*].

December 1910.

CORRESPONDENCE.

Architecture, and Anglo-Saxon Domination.

To the Editor, JOURNAL R.I.B.A.—

SIR,—In the issue of the 12th November last appears a review, by Mr. Francis S. Swales, of M. Nénot's monograph of the New Sorbonne, Paris. The work reviewed appears to be another of the fine books which the French Government and the previous rulers of France have issued in past years.

F F

Would that our own Government showed equal interest in the arts!

I am not now concerned with the book, nor with the encomiums passed upon the building by the reviewer; but the comparison made at the expense of the great masters of past ages, and presumably of English work by architects more recently passed away, needs, I think, some protest. Speaking of the subject of the monograph, the reviewer says: "How well it escapes the *antiquated and anile* aspect of so many of the new buildings *for similar purposes* in the countries dominated by the Anglo-Saxon!" (The italics are mine.)

One wonders what the reviewer had in his mind, what buildings, what precise characteristics. The New Sorbonne is described as "including a college of theology, science, and letters—a university building conceived as architecture distinguished from archæology!" What have we comparable in England in regard to its purpose? One thinks of Oxford, and recent work in new colleges and additions to old ones by such men as Butterfield and Bodley. Should we dub these examples "antiquated and anile—not conceived as architecture"? If it is merely an individual opinion which looks only for Beaux-Arts influence, and condemns where it is absent, then we may rest content, and not trouble to obtain specific notes as to how these results of Anglo-Saxon productions might have been improved upon. Anything they gain from English traditions of the glories of our forefathers' work may to that extent be approved. The same may be said in regard to new work, so inspired, in the overseas possessions of the Empire, provided that conditions of climate and different local needs be grafted into the design, thus leaving the marks of British rule for future ages rather than the perpetuation of an indigenous mode of building only suited to inferior races. Then what new overseas universities can be cited as not "conceived as architecture"?

There is, however, a notable example of classic-inspired work by a firm of New York architects in that city, a firm placed by Mr. Swales in his list of the best architects America has produced. I refer to the Library of Columbia University. Its chief features are an Ionic decastyle portico, with heavy attic, and a broad low dome beyond. This firm keeps usually very close to ancient precedent, and probably therefore the building must be deemed "antiquated," according to this dictum. Anyhow it is often put forward as a great work. Close by, another collegiate building has just been completed, inspired by fifteenth-century English Gothic. I refer to the Union Theological College. Anyone who objects here to "imported English architecture" would no doubt condemn it on the ground of its "antiquated" style. I think, however, that some general remarks by Mr. R. C. Sturgis might be applied to this recent exterior, viz.: "English Gothic, especially its collegiate phase, has found its expression here, and, with the chastened memory of the early American barbarities in this style, and a grateful affection for such sound old-school examples as Trinity Church, New York, the development here has not departed much from sound precedent, but in a general way tends toward what might have been expected if Gothic had continued its natural course" (JOURNAL R.I.B.A., vol. xiv., 3rd series, p. 229).

Now we come upon the following couplet in the review:—

> "The idiot who praises in enthusiastic tone
> Every century but this!"

One thinks of Ruskin's teaching, and the work of Pugin, Scott, Street, and Burges, in Gothic; of Elmes, Cockerell, and others who were inspired by ancient classic, not to mention living practitioners; and inasmuch as they based it upon the work of past ages (of centuries other than "this"), to which they gave the fullest praise with more or less enthusiasm, one is surely unwilling to presume to speak of their idiocy. The humility and modesty of the true artist forbid, either as to the mother art or the daughter arts of sculpture and painting.

If it be admitted that architecture is a progressive art, it must surely progress by the study of what has been done in past ages, and it must be a dead soul that is not moved to admiration and an earnest striving to catch what seems almost a divine afflatus. As Professor Reginald Blomfield once observed: "We have yet to build up again our tradition in the arts." This seems to be the right attitude even for our leading men—always students—though generously expressing admiration for the work of their contemporaries as efforts to do well, even of a style they do not think the noblest. It has been said that "modern art prides itself upon its ugliness, and any beauty based upon the great art traditions is counted as mere conventionality." This goes rather too far; but ugliness, if novel, may be applauded as originality, and take credit to itself for owing nothing to tradition, and miscall itself "Art." This is the kind of work which needs to be discouraged, lest it become the upas-tree which in any land, dominated by any race, must kill all architecture worthy of the name. Is there even now so little vitality in "many" of our own buildings, for university purposes or otherwise, that we should be grateful for this reviewer's criticism—"antiquated and anile"?

Yours faithfully,

EDWARD W. HUDSON [*A.*].

New York, 22nd December 1910.

9 Conduit Street, London, W., 21*st January* 1911.

CHRONICLE.

THE PRIZES AND STUDENTSHIPS 1911.

The Council's Award.

The Designs and Drawings submitted for the Institute Prizes and Studentships are now on exhibition in the R.I.B.A. Galleries (9 Conduit Street, W.). The Council's Deed of Award, read at the General Meeting of the 16th January, gives particulars of the competitions and the results thereof as follows :—

The Royal Institute Silver Medals.

(i.) *The Essay Medal and Twenty-five Guineas.*

Two Essays on "The Design and Construction of Belfry Stages and Spires in Stone or Brick" were received for the Silver Medal under the following mottoes :—

1. "Dulce est desipere in loco."
2. "T-square."

The Council have awarded the Medal and Twenty-five Guineas to the author of the Essay submitted under the motto "Dulce est desipere in loco" [*Herbert Lewis Honeyman*].

(ii.) *The Measured Drawings Medal and* £10 10*s.*

Five sets of drawings were sent in of the various buildings indicated, and under mottoes as follow :

1. "Nihil sine labore," St. Lawrence Jewry, Gresham Street : 6 strainers.
2. "Cam," Senate House, Cambridge : 4 strainers.
3. "Ethandun," Edington Church, Wiltshire : 6 strainers.
4. "Farnese," Somerset House : 6 strainers.
5. "Oxonian," Basilica Palladiana, Vicenza; and Palazzo Albergati, Bologna : 6 strainers.

The Council award the Medal and Ten Guineas to the author of the drawings submitted under the motto "Ethandun" [*T. F. W. Grant* [*A.*]].

The Travelling Studentships.

(i.) *The Soane Medallion and* £100.

Thirteen designs for an Entrance Gateway to a Capital City were submitted under the following mottoes :—

1. "Black Cat" : 6 strainers.
2. "Boreas" : 4 strainers.
3. "Civitas" : 8 strainers.
4. "Harlequin" : 6 strainers.
5. "Horatius" : 6 strainers.
6. "Journey's End" : 8 strainers.
7. "Jemadar" : 4 strainers.
8. "Mafie" : 6 strainers.
9. "Mauerthor" : 7 strainers.
10. "Ponta" : 6 strainers.
11. "SLLab" : 7 strainers.
12. "Yellow Bird" : 6 strainers.
13. Anchor (device) : 5 strainers.

The Council have awarded the Medallion and (subject to the specified conditions) the sum of One Hundred Pounds to the author of the design submitted under the motto "Civitas" [*Prentice Mawson*] and a Certificate of Hon. Mention and Ten Guineas to the authors of the designs under the mottoes respectively of "Mauerthor" [*C. Percival Walgate, A.R.C.A.*] and "SLLab" [*A. Douglas Robinson*].

(ii.) *The Owen Jones Studentship and* £100.

Two applications and drawings were received from the following :—

1. A. W. Bellis : 6 strainers.
2. Lawrence Oakley : 6 strainers.

The Council have awarded the Certificate and (subject to the specified conditions) the sum of One Hundred Pounds, to *Mr. Allan Waddington Bellis.*

(iii.) *The Pugin Studentship and* £40.

Nine applications were received for the Pugin Studentship from the following :—

1. Walter Alison : 3 strainers.
2. S. Clough : 4 strainers.
3. J. B. F. Cowper : 4 strainers.
4. N. W. Hadwen : 4 strainers.
5. P. Hepworth : 4 strainers.
6. O. S. Hill : 4 strainers.
7. F. J. Lenton : 4 strainers.
8. J. B. Mendham : 4 strainers.
9. T. H. Whitaker : 4 strainers.

The Council have awarded the Medal and (subject to the specified conditions) the sum of Forty Pounds to *Mr. James Bertie Francis Cowper*, a Prize of Five Guineas to *Mr. Philip Dalton Hepworth*, and a Certificate of Hon. Mention to *Mr. Noel Waugh Hadwen.*

(iv.) *The Godwin Medal and* £65.

No applications were received for this Prize.

(v.) *The Tite Certificate and* £30.

Nineteen designs for a Campo Santo were submitted under the following mottoes :—

1. "Amaryllis" : 6 strainers.
2. "Apex" : 6 strainers.
3. Black Horse (device) : 4 strainers.
4. "Catafalque" : 6 strainers.
5. "Charon" : 6 strainers.
6. "Catacomb" : 6 strainers.
7. "Campana" : 5 strainers.
8. "Dust and Ashes" : 6 strainers.
9. "EK ΘANATOY NIKOC."
10. "Fate" : 6 strainers.
11. "Fiat Justitia" : 6 strainers.

12. "F. 13" : 6 strainers.
13. "Gondolier" : 5 strainers.
14. "Geometer" : 6 strainers.
15. "Ilex" : 4 strainers.
16. "No. L." : 5 strainers.
17. "Naos" : 6 strainers.
18. Red diamond (device) : 6 strainers.
19. "Spero Meliora" : 6 strainers.

The Council have awarded the Tite Certificate and (subject to the specified conditions) £30 to the author of the Design marked "F. 13" [*George Herbert Foggitt*], a Certificate of Hon. Mention and Ten Guineas to the author of the design bearing the motto "Catafalque" [*Henry Boddington, junr.*], and Certificates of Hon. Mention to the authors of the designs respectively of "EK ΘANATOY NIKOC" [*W. G. Newton*] and "Apex" [*V. O. Rees*].

The Arthur Cates Prize : Forty Guineas.

Two applications were received for the Arthur Cates Prize from the following :—

1. George Vey : 6 strainers.
2. Andrew Graham Henderson : 6 strainers.

The Council have awarded the prize to *Mr. Andrew Graham Henderson.*

Prizes for Design and Construction.

The Grissell Gold Medal and £10 10*s.*

Eight designs for a Skating Rink of Wood Construction were submitted under the following mottoes :—

1. "Dydd" : 2 strainers.
2. "Dan" : 3 strainers.
3. "Morton" : 2 strainers.
4. "9×3" : 3 strainers.
5. "Oregon" : 3 strainers.
6. "Oro" : 4 strainers.
7. "Riga" : 1 strainer.
8. "Three Nuns" : 2 strainers.

The Council regret that there is no design of sufficient merit to justify the award of the Medal.

The Henry Saxon Snell Prize : £60.

Four Designs for a Convalescent Home were submitted by the following :—

1. A. Halsted : 4 strainers.
2. Ernest Schaufelberg : 5 strainers.
3. Louis E. Pryke : 6 strainers.
4. Harry Sykes : 4 strainers.

The Council regret that none of the designs is of sufficient merit to justify an award being made.

The Ashpitel Prize 1910.

The Council have, on the recommendation of the Board of Architectural Education, awarded the Ashpitel Prize (which is a prize of books, value £10, awarded to the candidate who has most highly distinguished himself among the candidates in the Final Examinations of the year) to *Mr. James Bertie Francis Cowper,* of Manchester, *Probationer* 1906, *Student* 1907, who passed the Final Examination June 1910.

The Travelling Students' Work.

Pugin Student 1910.—The Council have approved the drawings executed by Mr. Henry Hubert Fraser, Pugin Student 1910, who travelled in Huntingdonshire, Bedfordshire, Northamptonshire, and Cambridgeshire.

R.I.B.A. Preliminary Examination : Exemptions.

The Council, on the recommendation of the Board of Architectural Education, have resolved that applicants for the Probationership R.I.B.A. who have passed the Senior or the Junior School Examination of the University of London, or the Matriculation Examination of the University of London, shall be exempted from sitting for the Preliminary Examination of the Royal Institute.

The Coronation : Postponement of the next Final Examination.

His Majesty's Coronation having been fixed for the 22nd June next, the Institute Final and Special Examinations, which had been arranged to commence on that date, will be held a week later—viz. from the 29th June to the 5th July.

Mr. Herbert Baker's Architectural Scholarship for South African Architects.

Mr. Herbert Baker [*F.*], of Johannesburg, announces his intention to institute every alternate year a scholarship to be held by young South African architects for architectural study in Rome and Athens. In a memorandum communicated to *The Times* last week Mr. Baker says :—

It is my belief that while our architects should receive the greater part of their professional education in the country in which they live and work, yet it is essential for the future of South African architecture that they should have the opportunity of direct study of the masterpieces of architecture in the countries surrounding the Mediterranean, in which the climatic conditions are similar to those of South Africa. It was Cecil Rhodes who taught me the immense value of such an education when with this object in view he sent me to these countries.

The scholarship will be for the period of one year, and its value will be £250. I hope to give it every alternate year. General the Hon. J. S. Smuts, Mr. Lionel Phillips, M.H.A., Mr. Patrick Duncan, C.M.G., M.H.A., and Mr. Walter S. Webber have kindly consented to act as South African trustees. In Europe the scholarship will be administered by the Royal Institute of British Architects, working in conjunction with the British Schools at Rome and Athens.

The scholarship will be open to any British subject who has spent seven years in the study and practice of architecture, who is under thirty-five years of age, and who has spent at least two-thirds of his architectural career in South Africa. It is my opinion that it is those architects who have reached that stage of their education in which they have learnt by actual experience to realise the difficulties of architectural design who will derive most benefit from the scholarship.

Each candidate will be required to submit a portfolio of designs, drawings, or work of craftsmanship allied to architecture, all of which must be the product of his

own hand and brain. He must also make a design and write a short essay on given subjects. There may also be a *viva voce* examination, and an inquiry as to the candidate's character and general attainments. The selection will be made by the trustees, acting on the expert advice of an architect appointed by the council of the Transvaal Association of Architects, an expert (not necessarily an architect) appointed by the trustees, and myself or my nominee.

The successful candidate will be required to spend eight or nine months at Rome as headquarters, acting under the direction of the British School at Rome. This period will include a visit to Athens, with the British School there as headquarters. He must apply himself to the study of architecture and its allied arts, and not to archæology. He should devote his studies to the principles upon which the noblest architecture of all periods is based rather than to the superficial details, which are often the mere accidents of style. For the rest of the year he must make London his headquarters. He will then be required to continue his work in museums and libraries, and to study the architecture of Northern as compared with that of Southern Europe. At the completion of his year he must exhibit, under the direction of the R.I.B.A., the result of his studies, and submit a thesis on the relation of style in architecture to conditions of climate and practical requirements. He will then be required, within a limit of time fixed by the trustees, to hold one or more similar exhibitions in South Africa.

I reserve the right to modify the conditions from time to time. Further information as to dates, subjects of examination, and other details will be given on inquiry to myself at P.O. Box 4959, Johannesburg.

The Mall Improvement: Progress of the Negotiations.

The question of the widening of the approach to the Mall from Charing Cross was considered last Wednesday at meetings of the Improvements Committee and the Finance Committee of the London County Council. It is understood that as the result of the meetings a communication has been sent to the Office of Works, and an announcement may shortly be expected. The *Times* of the 18th inst. states that the suggestion had been made that the value of the site of two demolished houses which the Office of Works had offered to present to the London County Council should be taken into consideration in apportioning the cost of the improvement in Spring Gardens. It is obvious that if this were done, the basis upon which the negotiations are being conducted between the Office of Works on the one hand and the County Council and the Westminster City Council on the other would be altered. It has hitherto been assumed that if the cost of the necessary alterations were divided equally among the Department and the two Councils, the share of each would be about 46,666*l.* The Office of Works maintains that in carrying out all the improvements within the Park, and in offering to surrender the portion of land which it holds outside the boundary, it has done enough. If, however, the value of this land were added to the estimated cost of the work still required to be executed (146,000*l.*), and if, in the new apportionment, credit were given to the Office of Works for the value of the land surrendered, the actual sum now required to be paid by the Department would be considerably less than 46,666*l.* It remains to be seen whether, in these altered circumstances, the First Commissioner of Works will be able to consent, on behalf of the Government, to an arrangement on the lines indicated. The apportionment of the remaining two-thirds of the cost between the two Councils would still need to be considered. It is understood that the Westminster City Council feel that they are unable to offer to contribute more than £50,000, in view of the fact that they would also have to pay, in the shape of rates, one-seventh of the total sum contributed by the London County Council.

St. Paul's Bridge.

The Corporation of London (Bridges) Bill came before the Examiner of Private Bills at the House of Commons on the 18th inst. The Bill provides for the construction of a new bridge over the Thames between Blackfriars and Southwark Bridges. On the south side the bridge will begin at or near the junction of Southwark Street and Great Guildford Street, and it will terminate on the south side of Cannon Street " at a point fifteen yards or thereabouts, measured in a westerly direction, from the centre of Old Change." The Bill contains clauses for the rebuilding of Southwark Bridge, the widening of the eastern side of St. Paul's Churchyard between Cannon Street and Cheapside, the construction of a subway for foot passengers in Knightrider Street, and the erection of a temporary footbridge or footbridges during the rebuilding of Southwark Bridge. The period within which the construction of the new bridges must be completed is fixed at ten years. The Examiner found that the Bill complied with the Standing Orders, and ordered it for first reading. The latest date on which petitions against the Bill may be lodged is 12th February if it is first introduced in the House of Commons, and 19th February if in the House of Lords.

The New Wing of the National Gallery.

The extension which has recently been added to the National Gallery will shortly be opened to the public. The new galleries are largely constructed of concrete, in which Kahn reinforcement has been used to secure the necessary fire-resisting effect. The extension consists of a series of three rooms on the ground floor, and four galleries and a circular dome gallery on the first floor. The roofs consist in each case of arched girders in reinforced concrete, finished with fibrous plaster and panelled with wired glass, which gives a lighting effect in striking contrast to the system of lighting

adopted in the old galleries. The ventilation is on lines intended to remove the complaints of stuffiness so frequently made by visitors to picture galleries. The galleries are lined throughout with black and dark green marble, and the walls hung with paper of rich design to form a suitable background for the pictures. Both the western and the eastern portion of the old galleries are now in course of reconstruction in the same way. The scheme of decoration for the five rooms of the new north-west wing was devised by Sir Charles Holroyd, the Director, in conjunction with the Office of Works, who employed Messrs. Morris, of Oxford Street, upon the work. In the square central gallery is adopted a background of a rich Cordova red colour, in another room one of old gold, and in the three remaining rooms one of green. The designs, four in number, for the embossed canvas are by William Morris; one is known as the "Oak" design, and was chosen for the dull gold of the fifth gallery; two others, known as the "St. James's," were made some years ago for St. James's Palace and the silk hangings in the Throne Room there.

Architectural Education.

The question of the young architect's profes sional training was under discussion at a meeting of architects in the district of Birmingham on the 13th January, Mr. W. H. Bidlake, M.A. [*A.*], in the chair. A paper was read by Mr. Harry E. Rider, of London, who claimed that one of the best methods at present extant to secure efficient training was through the instrumentality of the architectural course of the International Correspondence Schools. The scheme of training adopted by the schools was outlined, and the drawing plates and specially printed books used by them were on view. The Chairman said that he felt the question of the efficient education of our young men was even more pressing now than it was in his early days. Everyone was becoming more highly educated, and architects must see to it that they are not left in the background in this matter. It was very important that the architect should have a thorough knowledge of every branch of the builder's work, including sub-contractor's work. Mr. Bidlake, in referring to the method of instruction as carried out by the International Correspondence Schools, said that he had gone very carefully into the scheme, and had come to the conclusion that it was one of the best methods of learning. Very great care had been taken to bring the course up to a high standard of correctness and efficiency, and he had no hesitation in recommending it to the young men of the profession. One advantage of the method was that a student could study at all times, and he was quite sure that when one had to read and write things in order to gain the necessary information, as was the case with the I.C.S. method, there was more certainty of lasting results being obtained than in the case of the class method, where things heard often go in at one ear and out at the other.

Election of Licentiates R.I.B.A.

At the Council Meetings of the 9th inst. and 16th inst. the following candidates, having been found eligible and qualified under the Charter and By-laws, were elected Licentiates R.I.B.A., in accordance with the provisions of By-law 12:—

ABBOTT : Ernest Henry.
ADAMS : Frederick Ernest (Nottingham).
ADKIN : Alexander George (Bradford).
AISH : Clifford Augustus.
BAKER : Charles Granville.
CHEERS : Henry Arthur.
CLARKE : Charles Ernest.
CLEMESHA : F. Chapman (Canada).
COATES : George Lister (Bury St. Edmunds).
COLLES : Godfrey (Manchester).
COOPER : Walter Christie (Cardiff).
COX : Frederick Arthur.
DARKE : FitzRoy Hyde (Cairo).
DEACON : Wilfrid Thomas (Liverpool).
DE ADLERSPARRE : Christopher.
DIXON : Frederick Charles.
DRUERY : Henry.
EDMONDSON : Richard Jowett (Halifax).
EVANS : Samuel (Mold, Flintshire).
FELGATE : Ernest Theodore (York).
FORREST : Thomas Morgan (Montreal).
FULLER : Richard Andrew (Portsmouth).
GODMAN : Charles Richard Bayly (Horsham, Sussex).
HAMMOND : Frederick Millett (Bradford).
HEYWOOD : James Herbert (Oldham).
HIGGINSON : Henry (Carlisle).
JOHNS : Edwin Thomas (Ipswich).
JONES : Ronald Potter.
KIRKLEY : Henry (Manchester).
LAKE : George Frederick.
MACPHERSON : William (Drymen, N.B.).
MANGAN : James Henry (Preston, Lancs.).
MARTEN : William Henry Herbert (Leeds).
MATHERS : John Morrison (Newport, Fife).
McLAUCHLAN : Stewart (Liverpool).
McMILLAN : Thomas.
MEADEN : John Gilbert Pitney.
MEYERS : Sydney Herbert.
MURRAY : James.
MURRAY : Thomas Edward.
NORMAN : George Henry.
NORMAN : Herbert (Northampton).
OGDEN : George (Oldham).
PAMPHILON : Walter James.
PANTON : Walter (Simaru, New Zealand).
PARISH : James (Leeds).
PICKELS : William (Bradford).
POWIS : George Prowse.
RAVENSCROFT : Frederick Ernest Briant (Reading)
SCHOFIELD : Howard Vincent Russell.
SEAMAN : Edward Fitz-Edward.
SHORT : Samuel George.
SLATER : William Ford (Stoke-on-Trent).
SMART : John Walker (Perth, N.B.).
STARKEY : Alfred Ernest (Southsea).
STEFANONI : William Basil.
STONEBRIDGE : Walter Butler (Bedford).
STURGES : Herbert John.
TAYLOR : Frederick William (Cirencester).
TAYLOR : James Thomas Alexander (Edinburgh).

THWAITES : William Henry (Preston).
TODD : John Ernest (Portsmouth).
TURNER : Alfred Evelyn (Nottingham).
WILES : Joseph Gilbert.
WILLIAMSON : Arthur.
WOODHOUSE : Albert Edward.
YOUNG : George Thomas.

Carpenters' Hall Lectures.

The Carpenters' Company have arranged for the following series of lectures to be given at Carpenters' Hall, London Wall, E.C., on Wednesdays, at 7.45 P.M. :—

Jan. 25. Truth in Craftsmanship, by Mr. T. Raffles Davison [*Hon. A.*]
Feb. 1. The Art of the Woodworker, by Mr. Henry Tanner, jun. [*F.*]
Feb. 8. Wood Carving, by Mr. Laurence A. Turner.
Feb. 15. A Demonstration in Modelling, by Mr. Alfred E. Drury, A.R.A.
Feb. 22. Brickwork, by Mr. Walter Cave [*F.*].
March 1. Joinery in Old London, by Mr. Arthur Keen [*F.*].
March 8. The Use of Glass in Building, by Mr. Noël Heaton, B.Sc., F.C.S.
March 15. Metal Work, by Mr. W. Bainbridge Reynolds.
March 22. Intarsia and Wood Inlay, by Mr. F. Hamilton Jackson, R.B.A.
March 29. The Decorative Uses of Sculpture, by Professor W. R. Colton, A.R.A.

On the following Thursdays at 8 P.M. :—

Feb. 9. British Sculpture of To-day, by Mr. M. H. Spielman, F.S.A.
Feb. 16. The Transition of London's Plan and the Disappearance of its Land Marks, and . . . After, by Mr. W. E. Riley [*F.*], Architect to the London County Council.
Feb. 23. Pompeii : The City of the Dead, by Mr. Whitworth Wallis, F.S.A.
March 2. Fire, and Fire Risks, by Prof. Vivian B. Lewes (Royal Naval College).
March 9. St. Paul's and the Bridges, by Prof. Beresford Pite [*F.*].
March 16. Woodland Industries, by Mr. M. C. Duchesne.

Tickets of admission to the lectures can be obtained free, from Mr. J. H. Freeman, Clerk of the Company.

ALLIED SOCIETIES.

York and Yorkshire Architectural Society.—In a paper read before this Society on the 11th January, Mr. J. Stuart Syme said Egyptian art, as might be expected from the remote position it occupied in history, was very closely dependent for its characteristics on those of the race which practised it, and on the conditions under which it lived, and no study of the one is complete without the other. Apart from articles of domestic use, toilet appliances and the like, there is little that is left to us which was not connected in some way with the religious life of the people, and with their profound belief in the immortality of the soul. Had it not been for this belief we can hardly suppose that they would have been at pains to construct and adorn with such wealth of sculpture and painted decoration the various tombs and monuments from which chiefly we obtain our knowledge of their life and art. So far as we can judge from contemporary records, the tools employed for carving in wood or stone and the method of using them did not differ greatly from those in use at the present day. In addition to various chisels and mallets they used the bow-drill, the saw, and the gouge. They were very partial to the use of the adze in wood-working. The tools were of bronze and iron, and we have no evidence that they had any knowledge of steel, or had any method of tempering to an unusual degree of hardness. Wooden statues, if of large size, were framed up owing to lack of large timber. The Egyptian artists were very skilful in line drawing, which was really the basis both of their decorative painting and their bas-reliefs. They had regular methods of study for beginners, arranged progressively from simple objects to finished heads, capitals, &c. The models consisted of small plaques and cubes showing the object in various stages of execution. Bas-relief proper was not so much employed for surface decoration as simple incised work, or what has been called "relieved intaglio," in which the object was outlined with deeply incised line, and swelled out gradually from the bottom of the recess thus formed, and slightly modelled. The bas-reliefs were almost invariably painted, the colours being used fairly pure and on conventional rather than naturalistic lines. Statues in sandstone, limestone, or wood were also painted, but those in granite or other hard stone were more highly finished off and brought to a fine polish. Egyptian art did not undergo any marked development once the characteristics of the style had been fairly established, and the differences were rather in degree than in kind, except as regards minor details of costume, technique, &c. The most vigorous work originated early during the Ancient Empire, and some of the best examples date from about the fifth dynasty. From that time onward the tide of excellence ebbed and flowed, through the Middle Empire, till in the New Empire, after the overthrow of the "Shepherd Kings," issued a Renaissance during which the quality of the work produced probably excelled that of any other period. All Egyptian art both in painting and sculpture is extremely conventional, and many of their mannerisms and methods may appear crude and unjustifiable, but they were probably dictated by considerations which under the circumstances were fit and proper. Their decorations were in fact not mere ornament, but rather histories and tales written for a purpose in a lazy age, the terms of which were clearly defined and would be understood of all, and with an art which is worthy to rank high among the best the world has seen.

Leeds and Yorkshire Architectural Society.—The annual dinner of this Society was held on the 16th inst. at the Queen's Hotel. The chair was taken by the President (Mr. S. D. Kitson), who was supported by Lord Airedale, Mr. E. Guy Dawber (Vice-President R.I.B.A.), the Lord Mayor of Leeds (Mr. W. Middlebrook, M.P.), Mr. Rowland Barran, M.P., Sir Nathan Bodington, Mr. P. S. Worthington (President of the Manchester Society of Architects), Mr. A. G. Lupton, Alderman F. M. Lupton, Mr. J. S. R. Phillips, Alderman C. F. Tetley, Dr. Trevelyan, and others.

Lord Airedale, in submitting the toast of "The Royal Institute of British Architects," rallied the President —who is his Lordship's half-brother—about some recent speeches with reference to smoke production in Leeds. "His father," said Lord Airedale, "placed me and my brother in a small ironworks that have now developed

into the Monkbridge Ironworks. Just at the time when those remarks of your President appeared in the Press, my collector of statistics produced his figures of production, wages, and coal consumed. I find in those works we have up to the present time consumed 2½ million tons of coal, and I think Leeds ought to be very grateful for that having consumed 2½ million tons of coal on so small a site we have made such a moderate amount of smoke. For each ton of coal burnt we have paid £1 in wages, or £2,500,000 in all." They had, he continued, given opportunities to architects to endeavour to meet the necessities of the situation, and he was glad to see such beautiful examples of street architecture as could now be seen in Infirmary Street, East Parade, and Park Row, which were meeting the necessities of a great and smoky town. He had done his utmost to reduce the production of smoke, and his utmost at the same time to consume the largest possible quantity of coal. They were among the first to introduce the Siemens gas furnace for heating iron and steel, and if it were not for those gas furnaces they would be producing an intolerable quantity of smoke. They could not conduct the manufacture of wrought iron without the production of smoke, because they required an oxidising flame and not a reducing flame. That process, however, was slowly dying, and wrought iron would be superseded by steel. "If," said his Lordship in conclusion, "you will be a little tolerant of us in the matter of the production of smoke, we will provide you with the means of putting up beautiful buildings to counteract the effects of the smoke."

Mr. E. Guy Dawber, replying to the toast, said they must educate their young men up to the highest possible pitch of attainment. The recent Town-Planning Exhibition organised by the Institute showed to the people who had never before realised that architecture was of any use, that good architecture, open spaces, and broad streets not only add to the health and comfort of the people, but were a national asset. Mr. John Burns truly said, "Mean streets make a mean man." The people who were brought up in dismal rows of dreary houses must have a dismal and dreary outlook on life.

Mr. H. S. Chorley proposed "The City of Leeds," which was responded to by the Lord Mayor.

Sir Nathan Bodington submitted the toast of "The Leeds and Yorkshire Architectural Society." The architect of the present day had, he said, to face certain difficulties. There was the restlessness of the age, the perpetual desire for some new fad, and the great desire for cheap work. But he thought there was a great set-off against those difficulties. Architecture had this great advantage, that it was the most democratic of all the arts. If the democracy was ever going to take art home to itself in any serious sense, it would take art to itself in the form of architecture. Painting was the art of an age in which the wealthy were the patrons. Music was essentially the art of the middle classes, but architecture, which Goethe called dumb music, gave harmonies in stone or other material which were rendered permanent, were erected generally on the larger scale at the public cost, and were there for all, rich or poor, educated and uneducated, to see and enjoy. We had been very slow to realise the potentialities of city life in this country. As this city life was developing there was the dawn of a brighter day, and in that town planning to which so much reference had been made it seemed to him that we already saw a promise of a better future. If that were to be so, they needed the help of the architectural profession.

The President, in responding, said he believed that democracy and Mr. John Burns had thoroughly mastered the fact that architecture was the poor man's picture gallery. They could not expect that in Leeds the Town-Planning Act would be made operative, largely owing to the fact that the Corporation of Leeds had anticipated the Town-Planning Act, and had been engaged in a stupendous work in the unhealthy areas, and had done it in a most wonderful way. While other people had been talking of town planning the Leeds Corporation had actually been doing town planning. Any one who went down York Road could not fail to be impressed with the wisdom of the work done there. With regard to smoke, he said they looked to the enormous development of electric power to clear the atmosphere of the big manufacturing towns.

Mr. J. S. R. Phillips, responding to the toast of "The Guests," which had been proposed by Mr. W. H. Thorpe, suggested amongst forthcoming work for architects a new house for the Lord Mayor, whose present rooms were inadequate to the dignity of his position.

MINUTES. VI.

At the Sixth General Meeting (Ordinary) of the Session 1910-11, held Monday, 16th January 1911, at 8 p.m.—Mr. Leonard Stokes, *President*, in the Chair; entered in the attendance-book the names of 31 Fellows (including 11 members of the Council), 40 Associates, 1 Hon. Associate, 7 Licentiates, and several visitors—the minutes of the meeting held 2nd January 1911 having been printed in the JOURNAL were taken as read, and confirmed.

The following Members and Licentiates attending for the first time since their election were formally admitted by the President, viz.: Alfred Edward Catt, Ralph Wilson, Thomas Francis Wiltshire Grant, *Associates*; Charles William English, Archibald Frederick Preston, George Carter, Arthur John Pearson Carrington, John Henry Beart Foss, *Licentiates*.

Mr. Halsey Ricardo [*F.*] read a Paper, illustrated by lantern slides, on CARDINAL MEDICI'S PLEASURE HOUSE, and a vote of thanks was passed to him by acclamation.

The Secretary having read the Deed of Award of Prizes and Studentships, 1910-11, made by the Council under the Common Seal, the sealed envelopes bearing the mottoes of successful competitors were opened and the names declared.

The proceedings closed, and the Meeting separated at 10.10 p.m.

The name of Mr. Arthur William Bungard should have appeared in the last Minutes in the list of Licentiates admitted at the meeting of the 2nd January.

ARCHITECTS' BENEVOLENT SOCIETY.

Mr. Watson Fothergill, of Nottingham, has lately secured subscriptions for the Architects' Benevolent Society from the following gentlemen:—

	£	s.	d.
F. Ball	1	1	0
E. H. Child	1	1	0
H. Gill	1	1	0
Messrs. W. B. Starr & Hall	1	11	6
J. Howitt	1	1	0

ADDRESS TO STUDENTS.

Delivered by the President, Mr. Leonard Stokes, at the General Meeting, Monday, 30th January 1911.

ONE of the most exciting duties that falls to your President's lot to perform is this Address to Students, and if only he will rise to the occasion, or at least attempt to, there is ample opportunity for him to give himself away most completely. Perennial platitudes in perhaps fresh disguises are his usual stock-in-trade, and you will have many a hardy annual to put up with to-night; but I can think of nothing more entrancing than to be able to deliver a really fine address to students, the most critical and exacting of all audiences, though without doubt the most appreciative.

In my opinion, however, a student alone can rouse a student. Of course, I know we are all students—(platitude No. 1)—but a student with the fire of youth running in his veins is the student that you would love to listen to, and not to such a one as I, trammelled with the chains of office and hampered by the dignity of the Chair, afraid lest I should say too much, and yet ashamed to hold my tongue; duty, however, demands that I should speak, so speak I must.

Of course, you know that even the youngest of us may make mistakes, but such mistakes are simple little howlers, which often set one thinking, and not the dull and heavy article produced by a President well over fifty. For this reason, therefore, I have a proposal to make to you, and it is that next year, if I am still in this Chair, the student under thirty years of age who can write the best address to his fellow-students shall read it to them, and have into the bargain, say, twenty guineas for his trouble, and if the Council does not see its way to vote the money, I will guarantee that he gets it somehow. For his subject—if he wills it—he can remodel the Royal Institute of British Architects, and play any tricks he likes with it and all its works and pomps. Further, I should like to suggest that the judges in this competition be under thirty years also, if that is not going too far, but perhaps you will leave this matter also to the Council and to me.

Having provided you with an address for next year does not fill up the gap to-night. You will have gathered already, however, that I am all on the side of youth; young ideas and young ways of expressing them are what I envy; the light touch of youth, so full of promise, so full of life, of vigour and vitality, is worth a great deal in all forms of art; in fact, without it what should be a thing of interest becomes an object to deplore, and what should be a thing of beauty is often very far from it.

Cultivate youth, then, keep it green as long as you can, and water it well from the springs of learning, for study you must, and study hard too, if ever you hope to make yourselves felt in your generation.

I am aware that there are many modes of study, and the form that suits one may not do

for another, but in one way or another you must put your young shoulders to the wheel. Do not, however, try to be too clever and artistic—with a capital A—for nothing is worse than apparent effort in design. The simple, direct, and restrained, even if it does not catch the eye of the assessor, will do you more good to have achieved than half a dozen flashy productions, even if they get you the same number of commissions. Do not be in too great a hurry with your work, or too anxious to get it, but go steady, and never put your name to anything that is not of your very best; also remember that it is often just as important to know what to leave out of a design as it is to know what to put in, and that the one thing of all others to be careful about is proportion. The study of light and shade—a good stock phrase—is, I know, recommended by the faculty, but we have in our country so little light, and so much shade, that this fact alone should make us ten times more careful with our proportions.

In my youth, I fear, I never had a good grounding in those delicious rules which give the right proportions for making everything, and I am unorthodox enough, I fear, not to be a great believer in this rule-ridden type of learning; rather would I trust to the eye and its power of judging each individual case, than to the efficiency of a rule which probably has been educed from quite a different set if circumstances; what looks right in one case would be quite out of place in another, and although a rule may be all very well "to take off from," the sooner we get clear of it the better. Always provided—as the lawyers say—that we have trained our eyes and our judgment to do their duty properly. Ten times this may make a that, and perhaps it has done so a good many times, but there must be all sorts of exceptions to rules of this sort, and I think that at best such rules are apt to give us commonplace and lifeless results. I venture to maintain that architecture at its best is not built up of rules, but rather of rhyme and reason. So whatever you do, *think for yourselves*. I do not for a moment suggest that you should try and be "original"! Heaven forbid! But I do maintain that you should be always thoughtful, and very careful. Please do not think that I want you to disregard what has been done in the past, for ours is a traditional art, and we must draw largely on the past if we hope to do better in the future. We should, however, use past examples intelligently and not blindly, even when we design on academic lines.

This brings me to a rather serious consideration. I refer to the sad lack of a thorough grounding in our students generally. I know architecture is a difficult thing to teach, as in our days it is such a comprehensive matter, but I am afraid that a smattering of a great many subjects is of no real use to an architect, unless such smattering is in addition to a real solid grounding in the "three R's" of our calling. Its reading, writing, and arithmetic should not be hard to define or teach thoroughly and methodically, but although architecture is such an important study, and though architects belong to such a great and glorious profession, there is very little to guide us as to the best method of producing the finished article from the raw material at our disposal. Our public schools only teach a very little drawing, and our universities are only just beginning to open their eyes to the fact that our profession exists at all; and we ourselves are not too clear on the matter of the best course to adopt. And yet, in spite of all this, we can produce the splendid show you see on the walls to-night, of which I think we may well be proud, and we should not overlook the fact that this is the first time, in recent years at any rate, that we have been able to exhibit our students' work in our meeting-room and listen to a critical description of the work with the advantage of seeing at the same time the work so commented upon.

And now I should like to say a word or two to the prize-winners, as I have so many before me, swelling no doubt with pride, and pluming themselves in the sunshine of success. I would say to these—*beware!* Many a good man has done the same before, and never been heard of since; and the fact of your having got a prize to-day is only one more reason why you should work hard again to-morrow. It shows that you may be a man of parts, but what do we learn from men of parts in other callings? In the world of sport, for example, does the man who wins

his heat to-day go on the spree, or does he train all the harder for the final struggle? You probably know the answer much better than I do. Skill of various kinds requires very careful handling, and I do not think that architectural skill is any exception. All work and no play does, no doubt, make a dull boy, but the dullest man one can possibly meet is the self-satisfied prig, too conceited to learn and too proud to keep himself in practice in the little that he really does know. I think I could prove to you from statistics that prize-winners do not by any means always become successful architects, but I have too many old friends amongst this class to make it worth while running the risk of making almost as many enemies by so doing, so I will only suggest that you should study the lists for yourselves and ponder well on your own conclusions.

Another pitfall is that travelling students often make poor use of their opportunities when travelling, and either go to the wrong places or spend their time in studying the wrong subjects. To guard against this the Records Committee is prepared to advise students where to go and what to do before they start on their travels, so I recommend you to take advantage of this offer and at once place yourselves in communication with our Secretary.

Having cautioned the winners thus somewhat ruthlessly, I should like to say a word of consolation to those who have not been placed. You, at any rate, have escaped the awful risks which stare the winners in the face, and if you have any grit in you you will not take your licking lying down. The line which divides a winning design from a losing one is often a very fine one indeed, and the very fact of having competed, and the spirit in which the result is taken, is what does the real good, and not the mere winning of the prize. So there is hope for all, including even the winners—perhaps: for study and hard work will turn the students of to-day into the Institute of to-morrow, and I trust that whether at work or at play you will not forget this Institute, which really does a great deal for students. In your turn, therefore, you must always do what you can to help it, and when you all have seats on the Council, and come in time to occupy this chair, you will be proud of the old ship and of what you have done to help to keep it afloat. You will also make and cement many a friendship in so doing, and friendships are after all very delightful and useful things to make, and to have. Personally—though I do not hold myself up by any means as a model—I believe I have learned far more from my fellow students, and friends, than I ever did from my teachers and masters. If you happen across a genius cultivate him, therefore, for all you are worth, that is if you do not happen to be one yourself. For the genius is a wonderful creation who has been defined in various ways, but as he is generally abnormally developed in his own particular sphere, a cutting taken from him will not be missed, will often flourish and produce fine results in the common or garden kind of student, just as a sprig cut from a fine apple tree will produce wonders if grafted on to the common crab. The genius in his turn will derive benefit from his more plodding and businesslike friend, who may often suggest ways of turning talents to account which might otherwise have escaped his poetic notice.

I do not think we hear quite so much of crafts and craftsmanship now as we used to, and probably for the reason that we have steadied down somewhat, and now recognise that architecture after all is itself quite enough of a craft to demand our whole attention. It is not necessary to be a bricklayer in order to grasp the limitations and proper principles of brick design, but it is necessary to know the size and shape of a brick before we can get very far on the architectural high road, and yet I have known young men in my time—otherwise very capable assistants!—who could not tell me the size of a brick. In other trades the same thing applies, and there is a vast amount to learn about them, so if we like to take up a trade or two as a hobby we shall no doubt largely benefit. But as we have to do with all trades it is obvious that general and intelligent observation, combined with reading and lectures, can be about the extent of our mastery of so many subjects. Drawing is our mode of expression in our type of craft, and we shall find it very useful to be able to draw accurately and intelligibly.

Perhaps I have now said enough to show you that a student's life is not altogether a bed of roses: but it can be a very happy one nevertheless if only he takes a keen intelligent interest in his work. As I ventured to point out in my opening address, architecture is a great and honourable profession, and it should be upheld by a fine honourable set of men. Play the game, therefore, strictly and straightforwardly; shun anything which in your own phraseology you would term "not cricket," whether in connection with your work or your desire to get it. An architect has a number of great and ever-increasing responsibilities, and his client has to place implicit trust in him, and this trust should never be abused in the very smallest degree, for although it may be a fine thing to be a great architect and produce a quantity of really fine work, yet who after all is more respected and admired by all than the simple, honest, straightforward and upright English gentleman?

CRITICISM OF DRAWINGS SUBMITTED FOR THE INSTITUTE PRIZES AND STUDENTSHIPS 1910–11.

By Professor C. H. Reilly, M.A.Cantab. [*A.*].

Read before the Royal Institute of British Architects, 30th January 1911.

Mr. President, Ladies and Gentlemen,—

To be asked by my fellow-members of the Council to join the band of those who have delivered this annual criticism is no small honour, and at the same time no small responsibility. There is a responsibility both to the Institute and to the competitors, and I trust that neither will resent anything I may say in my position of candid friend of both. For I feel very strongly that the exhibition before us in its broadest aspects is the best indication we have of the general state of architectural thought among the younger generation. Students' work, at any rate in England, follows very closely—much too closely, I venture to say—the trend of current architectural taste, and whether an exercise be supposed to be in the principles of Palladio, Vignola, and Chambers, or not, the result is generally a pretty faithful reflex of the latest competition devices of our competitively successful architects. In the absence of any national system of training in design it could hardly be otherwise. A year ago it was my good fortune to see in America the designs for the Stewardson scholarship, which holds there a similar position to our Soane Medallion. The chief difference, as it strikes me now, was not that the best work was better, but that in the hundred or more designs submitted for this one prize the general level of accomplishment was considerably higher than it is here. Among our students we have evidence before us to-night of many men of brilliant imaginative power and great artistic ability, but they seem to lack that technical accomplishment in design, that knowledge of architectural effects and possibilities, which is necessary for ability fully to justify itself. But if the best men suffer from lack of continuous training in design, how much more do the lesser? Indeed, the main advantage of schools of design—the only modern equivalent to consistent architectural tradition—is that the general level is raised. Everyone has remarked that in a time of strong tradition like the eighteenth century how little absolutely bad work was done, and the same results apply to the organised teaching of design which every country save our own now possesses. Facility in design, like facility in draughtsmanship, comes with constant practice. I know myself what a good exercise I find it scribbling compositions or details on the students' boards at Liverpool.

This may all seem a digression from my main subject to-night, but it leads to this sugges-

tion, that the Institute which has now taken in hand the training as well as the examining of students should make training in design the keystone of its system. History, mathematics, construction, materials, everything else, should be subsidiary to what after all is our main excuse for existence. Instead, therefore, of a couple of small designs and an elaborate system of written papers, I suggest the Institute should substitute a minimum of papers and a series of designs to which the Tite and Soane might be a fit culmination. As it is, I think the winners of these prizes might be allowed to qualify for membership just as the Prix de Rome, *ipso facto*, obtains for its holders their diplomas of the Ecole des Beaux-Arts.

Turning then to the Tite and Soane Prizes, the competitions for them as exercises in design are naturally and rightly the ones to which we attach most importance. Sketches, measured drawings, essays, colour studies, valuable as they are as means of study, all pale in interest before a single honest attempt to evoke the noblest function of the human mind, its power of imaginative creation. Ultimately, all works of art must live by their appeal to the imagination; that is the divine fire without which the cleverest rendering, the deepest scholarship are but negative accomplishments. Now there could hardly have been chosen two subjects making a more immediate appeal to the imagination than those for this year's Soane and Tite Prizes—a bridge and gateway to a capital city, and a wooded island in a lake set apart for the solemn rites of burial. They are ideal subjects, and our students—and all of us for the matter of that—should be encouraged to dream dreams; so-called English common-sense and love of compromise will follow fast enough in practical office work.

The Tite Prize.

I think particularly in the Tite Prize has the Committee's choice of problem been justified. Some tell me this is not such a strong year as certain previous ones. I have not always seen the drawings, and worse still have never been a competitor, so I cannot say. But whether it is up to the standard or not, I feel we need not despair of the future of our art when we have among us men of the poetical temperament of "ΕΚ ΘΑΝΑΤΟΥ ΝΙΚΟΣ," or capable designers like "Catafalque," "Apex," and the winner. The jury must have had a very difficult task in determining the result. Having set so fine a subject, were they by their award to throw Palladio to the winds and choose irrespective of all else the most poetical conception—the design which satisfied the spirit rather than the letter of their problem? It must have been a sore temptation, but English common-sense has won, as it generally does, and the very capable design of Mr. Foggitt, "F. 13," has been placed first. It is, indeed, the most Italian design sent in, Bramantesque in general character. Mr. Foggitt has also made more of the Italian idea of a campo santo than the other competitors. Cutting a great wedge out of his island he has contrived a broad sloping way up to his chapel, flanking it on either side with arcaded terraces set back one behind the other. At the head of the slope stands the finely composed façade of the chapel, the dome of which crowns the island. The unobtrusive perspective hardly does justice to this effective approach. Where Mr. Foggitt has failed, I think, is that the idea of a lonely island set apart for the solemn rites of burial is hardly conveyed by his pleasant scheme, which suggests rather a happy secluded convent building set among its terraced vines on some sunny Italian hillside. Mr. Foggitt's drawings are somewhat dirty in execution.

"Catafalque," who is placed second, sends a much better set of drawings, *quâ* drawings, than the winner. I commend his half-inch detail as an example of how classical architecture should be drawn, with a quiet pencil or washed-ink line, and geometrically yet tenderly shaded. He has designed for his main building a temple-like structure with a finely conceived portico, and has wisely placed it, as the Greeks would have done, some little distance up the hillside, leaving the mountain behind to form a background. The interior of this building is particularly good. Half-way up his long sloping approaches, however, stand two octagonal structures

for columbaria, and these are rather a blot on his scheme. They suggest to me both by their shape and detail garden pavilions rather than tombs. But the whole conception, if a little long for the island, is quiet and dignified, and the detail, except for one or two lapses, such as the archway with a broken cornice and the pediments without any tie in the Newgate-like niches, is good and expressive. The perspective is a very pleasant drawing, embodying well the quiet serenity of the design; the buildings are seen in silhouette against a setting sun near the water's edge reposing ready to welcome the advent of the happy dead. To me the whole idea of this design is more truly classical in spirit than that of any other.

"ΕΚ ΘΑΝΑΤΟΥ ΝΙΚΟΣ," if he has failed to win the prize, will win his victory from life itself. A man so sensitive to the poetical possibilities of his art will gain happiness, and pain too no doubt, from all he undertakes, but at any rate he will live a real life. His two perspective drawings have the solemnity and mystery of an early Maeterlinck drama. I think his main building, with its high enclosed atrium, has something of the remoteness—the dignity combined with simplicity—that we find in the best Greek work. He has justified his use of Greek detail, if any justification were needed, by a quotation from Chambers: "It should always be remembered that the stream is purest at the head." His detail, indeed, shows considerable scholarship, especially in the row of monuments in his niches, each differing in design. It is a pity they have been so carelessly drawn. Greek architecture calls for the purest, most delicate delineation. Besides his central building he has a quiet retired landing-place, and a little village set in a fold of the cliff, from which rises a circular stair to the headland on which he has placed his temple. All these are interesting and romantic features in themselves, but they are not bound into one architectural design, and the reason for this is the shape of his island. The author has assumed the shape to be that of a skull. It is an interesting idea though a non-architectural one, but that would not matter so much had it not hampered his design. It is really akin in spirit to the triangular lodge at Rushton Manor to symbolise the Trinity, or John Thorpe's scheme for his own home in which the plan spelt J. T. It is a pity so clever a designer should have been carried away by such an idea.

"Apex," to whom a certificate of honour has also been awarded, sends a very sensible set of sepia drawings, a little sloppy in finish due to their pencil line. Cockerell and our great classic architects always used a thin-ink line. "Apex" has absorbed the whole island in his scheme, but has handicapped himself in the eyes of the jury by levelling half of it to the water's edge to form an acropolis of the remainder. His architecture, however, is good and consistent in character, and he gets the fine effect of a processional way lined with monuments leading from his landing-place to the foot of his acropolis. What happens then is not quite clear, as no staircase is shown. Two hundred feet above, though, are a group of good buildings surrounding a central hall modelled on the tepidarium of the Roman Thermæ. The entrance to this has a couple of pylons with a colonnade between. It is here, as seen on the detail drawings, that the design is a little weak. After passing through a more or less Greek portico-in-antis these pylons, reminiscent of the Grand Palais at Paris, strike a jarring note. I would recommend to "Apex," and, indeed, to all who do not know them, the collection of Ecole des Beaux-Arts drawings of the sixties, seventies, and eighties, published by the "Intime Club" of Paris, and called "Croquis d'Architecture." Here, among a certain amount of bad Gothic, you can dig out all sorts of monuments, to each of which the architects of the Greek Revival, from Garnier to Pascal, have given, what only Frenchmen seem able to do, the appropriate architectural expression. I found these drawings in use in each American school I visited.

Perhaps the schemes I have mentioned form the first class. The next, not far behind, would include "Red Diamond," "Fate," "Charon," "Naos," and "Catacomb." The first has the good general idea of using Greco-Egyptian detail for suggesting the attributes of death.

He, too, has absorbed the whole island and crowned it with a monument. Although this structure is coarsely detailed, and the order even grotesque, I feel it possesses character, and character of an appropriate kind. One may be inclined to laugh, too, at "Red Diamond's" post-impressionist perspective, but, like the pictures at the Grafton Gallery, a sense of its uncanny strength remains with you. "Red Diamond" will soon realise that brutality is not the way to express power, and that perfect control and refinement of detail are its real complement, whether in a steam-hammer or in a Parthenon.

"Fate" crowns his island with a rather gay but well-drawn and well-detailed French dome carried on three terraces. His perspective is poor, but it is largely compensated for by the delicately drawn half-inch showing good knowledge of French eighteenth-century detail. It was a little unnecessary though to add French nursemaids and poodles to his main elevation.

"Charon" has placed a finely conceived Pantheon-like chapel on the apex of his island, but from want of time probably has not been able to finish his drawings. It is difficult to resist the feeling that he has employed his baby brother on the perspective. The poorest part of his design is the rococo terrace with vaults under it forming docks for boats.

"Naos" has also some finely felt Greco-Egyptian detail, highly suitable to the subject, if not according to Palladio, which is well and delicately drawn on the eighth-scale details, but poorly and clumsily on the half-inch. The general outline of his main building, with its reversed curve in the cupola, is weak. The plans, perspective, and elevations show traces of having been coloured at night.

"Catacomb" shows a building with four corner features and a dome, making a successful and thoroughly Italian composition. His general plan has not been worked out, but on his fine, if rather theatrical, perspective a good double-circular staircase approach is seen, solemnly lined with cypresses. His detail is a little dull, though founded correctly enough on Chambers and Somerset House.

"No. L" has shown in a careful set of drawings a small Italian cathedral, with a circular arcade behind it. It is not quite in the grand manner, however, to line the processional way with a series of gardeners' cottages.

"Geometer" and "Gondolier" both try to fit elliptical colonnades to their building, after the manner popularised by Mr. Fulton in a previous competition. This is an example of the bad habit I referred to of relying on each other's washing for a living. "Gondolier" submits a design for his burial-ground full of light-hearted gaiety. You approach his casino-like chapel through a rococo portico worthy of the White City, from which, too, his twin towers might have been borrowed. He is a clever draughtsman, though, and his perspective is one of the best in the room.

"Spero Meliora" will justify his motto. He shows in a good set of wash-drawings a rather dull town-hall-like building, with an Ionic pergola for a campo santo.

Lastly, "Dust and Ashes" has sent a little wash-and-pencil sketch perspective, in which the picturesque boatman we know of old—from copies in our first dame's school—is taking in his gondola two peasant ladies for a picnic in the cemetery. It is, as you can imagine, a charming early nineteenth-century water colour. "Amaryllis," on the other hand, shows all the soapy, bad effects which can be got by combining a heavy black line with colour. The detail, I am afraid, suggests terra-cotta and the music-hall, in the shades of which, perhaps, this sort of Amaryllis was designed to sport.

The Soane Medallion.

The Soane has not produced this year to my mind so good a competition as the Tite, either in numbers (12-19) or in the general quality of the work, yet in these days of civic design an entrance to a capital city should have been an attractive subject.

"Civitas" has sent in a thoroughly Beaux-Arts set of drawings, even to the gold borders and the carefully composed frontispiece of details. The plans, sections, and elevations are all made things of interest in themselves. The draughtsmanship, if somewhat uneven, reaches in places a very high level indeed. The drawings are shaded throughout and made intelligible to laymen. In England we are wont to play up too much to the man who boasts he can never understand a plan, and I am sure the public appreciation of our art suffers in consequence.

"Mauerthor" has had an honourable mention given him for a clever essay in François Premier architecture. The Soane is not restricted—unfortunately, I think—to the fine classical architecture practised by Soane and his contemporaries. It is therefore open to anyone to send in what the Americans would call an essay in archæology, and in this case it has been done with American thoroughness. The main gable, well shown on the half-inch drawing, exhibits all the varying scales, the uncertain grasp of *motifs*, which characterised such early work when ideas which since have blossomed were only in the bud.

"SLLab," who also receives honourable mention, submits a very modern design in the latest *Daily Mail* vernacular. The draughtsmanship of his geometrical drawings corresponds. It is the clever draughtsmanship of the competition expert. Neither in it nor in his design is there, however, any unity of idea. Both are full instead of clever slick touches. Indeed, "SLLab" seems to me to be in danger of becoming the clever person whom our present want of system in teaching design leaves stranded. If he is not careful he will fall into Mr. Imre Kiralfy's hands, and design gateways for White, rather than Capital, Cities. But it will not be his fault. His perspective, which is full of fine colour and fine feeling, shows him to be by nature a genuine and considerable artist.

"Harlequin" has to my mind the most solidly architectural scheme and shows it in sensible sepia drawings. His perspective reveals the fact that he has not quite realised that his main proportions should start at the bridge, not at the water level. But for this fault—a cardinal one I admit—he might have received a different place.

"Black Cat" has laid out a fine circular *place* on the city side of his gateway which is approached by a miniature Waterloo Bridge of one short span. The *place* is half surrounded by arcades which look weak on plan. The main building is quiet and good except for a very broken attic over the entrance.

"Yellow Bird's" scheme, with a central feature somewhat reminiscent of Hyde Park Corner, is quietly drawn in rather an old-fashioned way which seems to suit his architecture. "Journey's End" meets you with a great pylon in which Assyrian, Classic, and Romanesque *motifs* are mixed but hardly blended. I wish his architecture were as good as his draughtsmanship. "Horatius" also sends a somewhat bastard design in which a Romanesque bridge leads to a tower with new art buttresses and Egyptian sphinxes crowned with an Ionic garden pavilion. "Jemadar" at least has courage. He shows a building in buff terra-cotta.

The Grissell Prize.

The Grissell and Saxon Snell prizes are the only others offered for design. The Grissell is given for construction rather than pure form. The subject was a large skating rink to be built and roofed in wood. Unfortunately none of the competitors are adjudged worthy. "Oregon," whose building is quiet and satisfactory, has certainly attempted to design a novel form of roof. He has bifurcated his trusses above the hammer-beam, branching them on diagonal lines, which gives somewhat the effect of cross-vaulting, and at the same time braces the roof against wind pressure. If this roof would stand up—and I am assured by authorities it would not—it would certainly afford a striking and interesting interior. I think as an example of the "architecture of adventure" it deserves some credit. The drawings, too, are

well made and the roof construction clearly explained. The remaining designs are not very happy.

The Saxon Snell prize has not been awarded.

Turning now to what I may call the research section of our prizes we come first to the Institute Silver Medal for Measured Drawings.

Measured Drawings Medal.

Seeing that the Pugin is worth £40 and is devoted to mediæval work, I wish the Institute could see its way to increase this medal from £10 to a like sum, and confine it to Classic and Renaissance architecture. Frankly what is wrong with a good deal of our classical architecture to-day is that it is still too Gothic. Until we have devoted as much time to the study of classic forms as our predecessors did and our Pugin enthusiasts do to-day to Gothic ones we shall not make headway. At the same time we should learn to draw them in a style suited to their character. Classic architecture is an affair of light and shade rather than of line. It should be rendered therefore in light and shade, and the thick line drawing, which we owe to Burges, should be kept, if kept at all, for Gothic work.

"Ethandun," the winner, has indeed sent shaded detail drawings of the Gothic building he has measured, and very well they look. His black line elevations are not so pleasing, and his surveys a little careless. The latter, however, are supplemented by many sheets of full size plotted on the spot, for which he deserves and has no doubt obtained credit.

"Nihil sine labore" justifies his motto in the six strainers he has sent of St. Lawrence Jewry, a classical building, but shown in the strongest of competition black lines. Strong as these drawings are, they are bound to have the defects of their qualities. The carving, well drawn, has a totally wrong value, and an enriched moulding in effect counts more than a whole column. But it is not on such a question that "Nihil sine labore" has been judged. He has not submitted his surveys.

"Farnese," "Cam," and "Oxonian" all send rather tentative drawings, some in wash and some in line, and the surveys are not as good as they should be. "Farnese's" perspective of the much-measured Somerset House Strand entrance is a good piece of work.

The Pugin Studentship.

We come now to the Pugin, and a very difficult matter it must have been to make the award. Some drawings are crisper, some more spotty, some water-colour drawings are cleaner than others, but beyond that what can one say? It is a matter more of craftsmanship and industry than anything else. Mr. J. B. F. Cowper, the winner, who is to be congratulated on winning the Ashpitel Prize as well, is a hardworking north-countryman. He sends six good perspective sketches of towers and spires, three in line, three in colour. He has measured several parts of buildings in the special way Pugin students measure. He has, however, included among these latter the façade of some almshouses at Nantwich, which but for the date, 1638, one would imagine were modern artisan dwellings.

Mr. Hepworth sends in the most work, and in an elevation of the porches of Rouen Cathedral which he has measured maintains an extraordinary sharpness of pencil line. One cannot help wondering whether such laborious work is quite worth while and whether the full-size detail of a single niche would not be more valuable than these hundreds of niches all drawn with the same staccato touch. Mr. Hepworth, though, has measured more than the other competitors, and this is to his credit. Personally I think one measured drawing is worth a very large number of sketches. It may sound heretical, but I cannot help thinking that sketching, in spite of the

Pugin studentship, is by itself a very dangerous pastime. A man who has sketched the skyline of a building and a little detail over the door is apt to think he knows all about it. Perhaps the blight of picturesqueness which has settled on our architecture could be traced to the enthusiastic sketching of twenty years ago.

Mr. Clough has made a number of straightforward yet delicate drawings and some admirable colour sketches. He must have run the winner very close—whether behind or in front I need not say. Mr. Hadwen's shows evidence of a good deal of hard work, but his draughtsmanship is not very sympathetic. Mr. Alison sends good work too, but is a little uncertain in his details.

The Owen Jones Studentship.

The Owen Jones Studentship has produced two good sets of drawings by Mr. Bellis and Mr. Oakley. Perhaps Mr. Bellis, with his power of drawing the figure, is the stronger man. His drawing of the Pompeian decoration from the Castle of St. Angelo is particularly good. His colour though is not as good as his draughtsmanship, for some of his drawings suggest the reproductions in Mr. Owen Jones's book rather than the thing itself. Mr. Oakley is more daring than Mr. Bellis, in that he submits several sheets of original designs. Attempting more he has made a high failure rather than an easy success. His decoration often conflicts with the lines of his architecture, and I am afraid his panels would reduce his council chamber to a restaurant. To reconcile again great painting and great architecture is however the work of a giant, and no one in our time seems likely to accomplish it, unless it be Mr. Augustus John.

The Arthur Cates Prize.

Mr. Henderson, who wins this prize, sends some charming sketches chiefly from Italy and a design for a Carnegie library. The latter, to my thinking, rather negatives the former. His best drawing is of Peruzzi's delightful Santa Maria Carcere at Prato. Why, I wonder, has Mr. Carnegie's personality ousted that of Peruzzi from Mr. Henderson's mind?

Mr. Vey's drawings are not so good, though perhaps his design is better. Bay windows, however, running through several storeys are difficult things to harmonise with a really strong cornice.

The Institute Essay Medal.

The essays have been left to the last, not, however, because they are the least important. Indeed, of the research work the reverse is the case. The winning essay, Mr. Honeyman's, on the design and construction of belfry stages and towers, is a very valuable piece of real research work, showing throughout intimate first-hand study and a thorough knowledge of his subject. Although only two essays have been submitted, the winner's amply justifies the Council in changing the type of essay subject to one involving research and scholarship. On the other hand, I do not like to see the more philosophical type of subject entirely abandoned. Could not we have both? Different types of men would be attracted, the man of ideas—the designer, in fact—to the one, the scholar to the other. I beg students not to look down on the Essay Prize. Men who can see fine shapes in their imagination should be able, and generally are able, to write in good literary form. I frankly do not believe in the great inarticulate artist. He is apt to be a humbug. The biggest men from Michael Angelo to Reynolds, from Reynolds to our best modern architects, have all had this double facility of expression. I believe very strongly that the one form of expression helps the other, but we must never make the mistake, as old as Vasari and even Vitruvius, of accepting the one in place of the other.

VIGNOLA AND HIS MASTERPIECE

By Fredk. R. Hiorns [*A.*], *Godwin Bursar* 1905.

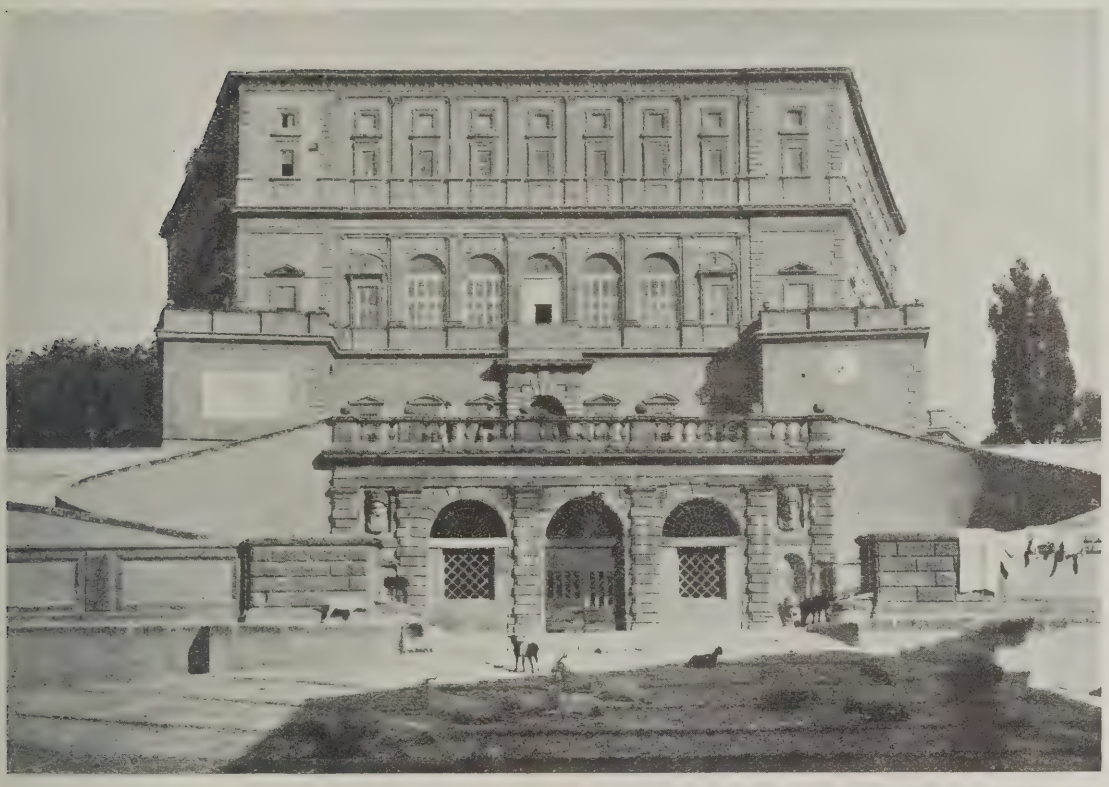


FIG. 1.—CASTLE OF CAPRAROLA, GENERAL VIEW. (Giacomo Barozzi da Vignola, architect.)

ONE of the most remarkable features of the renaissance of classic art—especially when regarded from its architectural side—is the personal or human factor whereby this revolutionary æsthetic change was brought about, and the phase of architecture thereby represented, developed, transformed, and carried to its culmination by a mere handful of men in the short space of something like two centuries. The great leaders of this extraordinary movement, as far as it relates to architecture, might almost be counted on one's fingers. Brunelleschi, Alberti, Bramante, Peruzzi, San Micheli, Sansovino, Palladio, Delorme, Perrault, Inigo Jones, and Wren are names easily recalled which practically cover the period mentioned. Another, which might worthily be added to this goodly company, is the subject of the following notes, that very remarkable man, Giacomo Barozzi da Vignola. Students of Italian Renaissance architecture will associate him with that stage in its development in which the highest state of classic refinement and perfection was reached.

It is recorded that in the general ruin brought about by the civil wars of Milan, Clementi Barozzi, a Milanese citizen of good family, retired from his native city to Vignola, a small town in the marquisate of that name, situated in the territory of Bologna. Here was born on the 1st October 1507 his son Giacomo, destined to become famous in the practice and teaching of architecture, and to be generally known by the name of the town and district in which he was born. His father dying when he was quite a boy, Giacomo, having a natural inclination for painting, repaired to Bologna to study the art. Not succeeding very well in this, he turned his attention to perspective and architecture, and in the former subject soon became so skilled and learned that he wrote a treatise on the art, which was published towards the latter part of his life and is usually found incorporated in his famous book on Architecture. He soon acquired some local reputation and made designs for several Bolognese gentlemen, including the Governor of the town, Francesco Guicciardini, who sent some of the designs to

Florence to a certain Dominican Brother, Damien of Bergamo, to have models of them executed n wood, and coloured to represent the materials of which they were proposed to be built. Whether any of these designs were carried out does not appear to be recorded. Vignola however, very wisely realising that the real understanding of architecture required more than the reading of Vitruvius and the making of drawings, decided to go to Rome to study the incomparable originals of antiquity and to extract from them the rules of an art which was represented in them in such perfection.* In so doing he followed the same excellent course for the learning of architecture that was adopted by his contemporaries—Bramante, Raphael, Peruzzi, Serlio and Palladio—and many others since their time, than which no sounder method could be found. So engaged, he measured and analysed what remained of the buildings of classic Rome, to such good purpose that he evolved therefrom what is perhaps (if one may use the expression) the simplest architectural system—as it is also one of the most tasteful—of any Renaissance writer.†

To support himself while making these researches he employed himself in painting, but with such an ill return for his labours that he sought employment with Jacopo Melighini,‡ architect to Pope Paul III., for whom he made many designs. This continued for a while until an opportunity came to enter the service of the Roman Academy of Architecture, a society of nobles and gentlemen, who, among other things, met together for the reading of Vitruvius. By this means he was brought in contact with men of influence and taste who were members of that body, including Marcello Servini (afterwards Pope Marcellus II.). In the discussions in which this society engaged, and in the drawings he prepared for them, Vignola was confirmed in good taste and in that appreciation of the *manière antique* which throughout his life he retained and consistently practised.

It happened in the year 1540 that Francesca Primaticcio, the Bolognese painter and architect, who had removed to France in the service of Francis I., was sent to Rome to make purchases of antique statues and to have others cast in bronze. Recognising in Vignola an accomplished man who would be of use to him in his enterprises, he availed himself of his assistance in Rome, and then proposed that he should return with him to France. Vignola readily agreed. During the two years he passed in France he assisted Primaticcio in his various works, and made designs for a number of edifices which, in consequence of the civil wars, do not seem to have been carried out. He also appears to have executed in that country some of the decorative perspectives in which he so excelled—chiefly at the Palace of Fontainebleau. The suggestion that he designed the castle of Chambord is an obvious mistake, for not only is the style unlike his—showing a retention of Gothic influence entirely foreign to Vignola's work—but in his book on perspective, where he speaks of its famous staircase, he makes no mention of having had a part in its execution. Though his stay in France was short, his reputation was highly regarded in that country, and French architects have since consistently paid tribute to his memory by their general acceptance of his book of rules as a working manual of proportions and detail for Renaissance architecture. In recent times we see this same influence, working through the French schools and *ateliers*, on the modern public architecture of America.

The opinion of Charles Normand on this point is probably a fairly representative one when he says,* "Plusieurs auteurs distinguèrent et classèrent les différents ordres d'architecture, et, parmi ceux-ci, Jacques Barozzio de Vignole observa plus exactement, à quelques égards, les belles proportions des anciens. Cependant le changement dans les mœurs, les nouvelles destinations données à différents édifices, la variété de style particulière à chaque nation, entraînèrent ces grands maîtres dans quelques écarts, qu'un goût plus pur s'est attaché depuis à rectifier. Les défauts observés dans leurs édifices existent aussi dans les livres et les dessins du même temps. Néanmoins le mérite incontestable de Vignole, et peut-être aussi l'influence de l'habitude, l'ont fait désigner jusqu'ici comme le guide exclusif de ceux qui s'adonnent à l'architecture."

Returning to Bologna, Vignola prepared a design for the completion of the front of the vast Church of San Petronio. His design, like those of so many other famous architects for the completion of this church, was never carried out, and to this day the building remains unfinished.† Near the church, and forming one side of the great square, he

* See D'Aviler, *La Vie de Vignole*, from which many of these notes are taken.

† Vignola (Giacomo Barozzi da), *Regola delle Cinque Ordini d'Architettura*. Various Italian and French translations.

‡ This, it is interesting to note, is the one-time accountant of San Pietro, sent by Pope Paul III. to relieve the want of Baldassare Peruzzi, when dying, as mentioned by Vasari, and in whose hands remained most of Peruzzi's writings after his death. Through this circumstance Vignola may have had access to these writings, as it is known that Sebastian Serlio did.

* Introduction to the *Nouveau Parallèle des Ordres d'Architecture*, par Charles Normand, Paris 1825.

† There appears to have been a competition among all the first architects of the world, in Vignola's time, for the completion of San Petronio's front. Designs were submitted by Palladio, Vignola, Baldassare Peruzzi, Cristoforo Lombardo, Giulio Romano, Domenico Tibaldi and others. That by Vignola enjoyed the distinction of having endorsed thereon the approval of Lombardo and Romano. The drawings form an interesting collection in the "Reverenda Fabbrica," adjoining the church, where they may still be seen.

built the "Portico de Banchi"—an arcaded loggia, about 1,000 feet in length, ingeniously adapted to the irregularities of an ancient building. He designed also the Bocchi Palace (now Piella) for the noble and learned Achille Bocchi, founder of the Bolognese Academy—its heavy character being, unfortunately, dictated by his patron—and at Minerbio, near Bologna, a palace for the Count Alamano Irolano. As an example of the adaptability of artists of that period, Vignola undertook a three miles extension of the Canal Navil s to bring it as far as Bologna, and successfully accomplished the work, but, receiving an ill reward for his labours, he withdrew from this city to Piacenza. Here he made, about the year 1558, the design for a palace for the Duke of Parma—a member of that Farnese family with whom the latter part of his life was so closely identified—and this formed probably the first of his larger works to be put into execution. It was built on the site of the citadel constructed at the end of the fourteenth century by Galeazzo Visconti, for which reason it was known as the Palazzo della Citadella, and its remains show it to have been on a scale of magnificence suited to the extravagant tastes of its owner. Giacinto, Vignola's son, who had been trained to assist his father, superintended the erection of this palace.

It was possibly at about this period that Vignola designed the Church of Santa Maria degli Angeli, a majestic church built at Assisi by Galeazzo Alessi and Giulio Danti. It had both a cupola and a tower, and enclosed the Gothic chapel in which St. Francis had expounded his doctrines of evangelical poverty. The church was terribly damaged by the earthquake of 1832, which brought portions to the ground. Vignola is also credited with the Church of Mazzano di Sant' Oreste, and a very beautiful chapel in the Church of St. Francis at Perugia, but the date of these works is obscure.

Returning to Rome, Vignola was, by the good offices of Vasari, in the year 1550, appointed architect to Pope Julius III., "from whom he received charge of the Acqua-Vergine, and of all the works at the Vigna of the Pope, His Holiness receiving Vignola into his service all the more readily as he had known him when he, Julius, was Legate at Bologna."* For this Pontiff he carried out portions of his villa near the Porta del Popolo, at Rome—well known as the Villa di Papa Giulio—which both Vasari and Michael Angelo are also credited with having designed. Vignola erected the block of buildings which includes the semicircular loggia—the remainder being largely the work of Ammanati.† The arrangement of the plan of this villa and its accessories and gardens forms a beautiful instance of "axial" planning, and is worthy of careful study. Taddeo Zucchero painted the frescoes of the gallery. This monument of papal magnificence, productive of so much delight to its owner, is now a ruin. Some despoiled columns of "vert antique," which formed a part of Vignola's building, now decorate the high altar of the Church of Santo Spirito at Pistoja. In the same neighbourhood, too, he erected the small but elegant chapel of Sant' Andrea di Ponte Molle, rectangular in plan and surmounted by an elliptical dome carried on pendentives. The Corinthian order, without pedestal, is used both on the exterior and interior of this building. It is a tradition that the head of the Apostle to whom this church is dedicated was left for some time at this place in its transfer from Peloponnesus to Rome. The Porta del Popolo itself is attributed to both Vignola and Michael Angelo, but judging by its generally debased character the latter was more probably the author.

In the gardens of the Villa Borghese, not far off, is a circular grotto thought to be the work of Vignola. He is also reputed to have designed the amphitheatre and the fountain of the dragon in the gardens of the Mondragone Villa—the largest residence in the environs of Rome—built for Pope Gregory XIII. It is a fine piece of stately garden architecture.

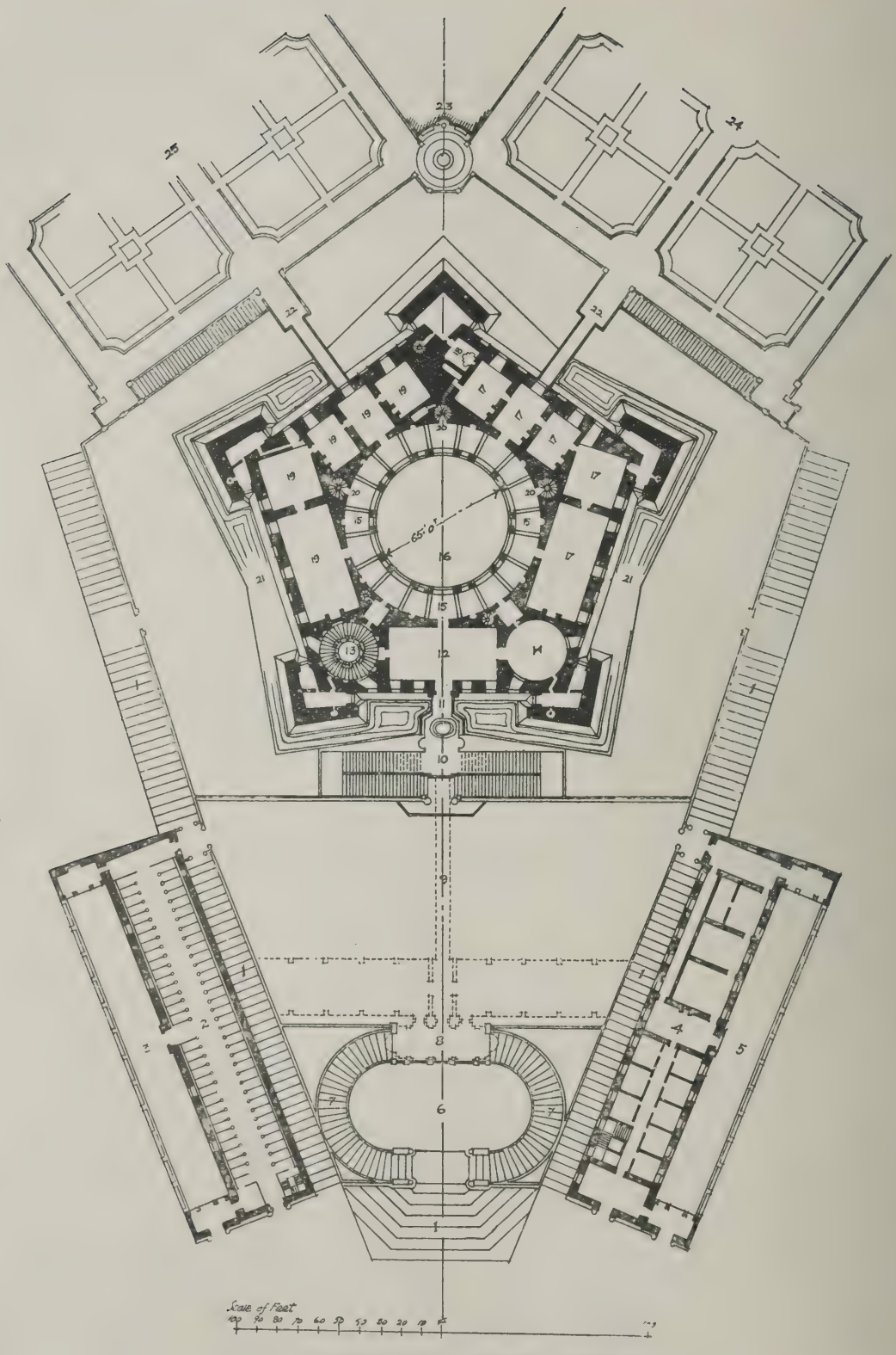
At the "Orti Farnesiani," or Farnese Gardens, laid out by Pope Paul III. amid the ruins of the Palatine Hill, he did the lower part of the magnificent portal abutting on the Campo Vaccino, of bold and noble design, but there is doubt as to the authorship of the other work executed there.

On the death of Michael Angelo, in 1563, Vignola was appointed architect to St. Peter's, in which post he continued for the remainder of his life. In this capacity he designed the four smaller cupolas to accompany the great dome, two only of which have been completed. These form familiar objects in exterior views of the basilica—though unfortunately too much hidden by Maderno's front to be seen to advantage. The change of plan from the Greek to the Latin cross has rendered the placing and design of these somewhat meaningless and ineffective, and this is especially noticeable as the two cupolas intended for the posterior end were omitted except for the preparation of their bases just above the roof line.* Had the four been completed on the original Greek cross plan, as proposed by Bramante, Peruzzi, and Michael Angelo, the resultant pyramidical effect might have enhanced the appearance of the great dome and given breadth, and a finer sense of scale, to the general mass of the building. But Maderno's extended nave, and the non-completion of two of Vignola's cupolas, have prevented this effect being realised, and even the dome itself is to a large

* See life of Taddeo Zucchero in Vasari's *Lives of the Painters, Sculptors, and Architects.*

† Bartolommeo Ammanati, who designed the most beautiful bridge in the world, that of the Holy Trinity at Florence.

* For details of these cupolas see *Templum Vaticanum et ipsius origo*, Carolo Fontana—Rome, 1694.



GENERAL PLAN—AT GROUND FLOOR LEVEL.

FIG. 2.—CASTLE OF CAPRAROLA. (Giacomo Barozzi da Vignola, architect.

See Index to numbers opposite.

INDEX TO GENERAL PLAN, FIG. 2.

1. Inclined approaches.
2. Stables as designed (not executed here).
3. Intended stable courtyard.
4. Domestic offices as designed (not executed).
5. Intended court to latter.
6. Small lower court.
7. Staircases to upper court.
8. The Satyric Grotto, forming approach to the subterranean passages.
9. Upper approach court.
10. Steps up to ground-floor level.
11. Bridge.
12. Guard-room.
13. The grand staircase.
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15. Loggia with arabesque decorations.
16. The palace courtyard.
17. Summer apartments.
18. Bath-room.
19. Winter apartments.
20. Service stairs.
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22. Bridges leading to the gardens.
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24. Garden of the summer apartments.
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Fig.

1. Grand staircase.
2. Circular Loggia with arabesque decorations.
3. Great hall, overlooking the Campagna.
4. The chapel.
5. Hall of Farnesian Pageants.
6. Council room.
7. Chamber of Dawn.
8. „ Solitude.
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10. Chamber of Penitence.
11. „ Judgment.
12. „ Dreams.
13. „ Angels.
14. Hall of the World.
15. The court.
16. Service stairs.
17. Terraces over bastion

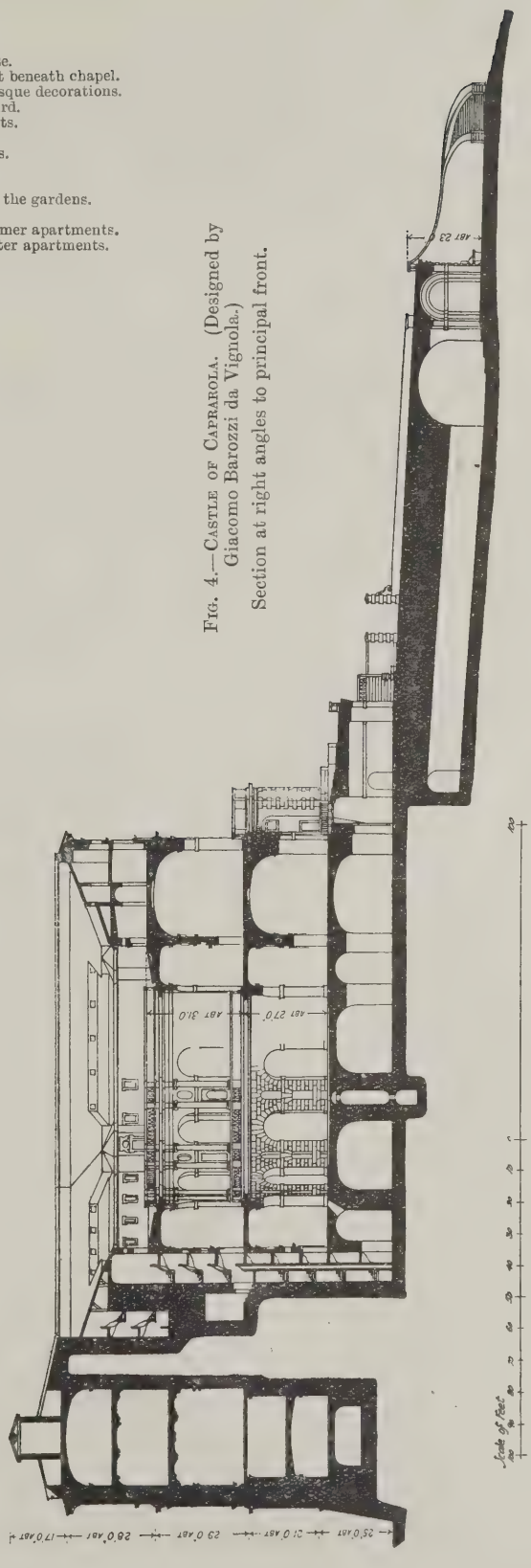


Fig. 4.—Castle of Caprarola. (Designed by Giacomo Barozzi da Vignola.)
Section at right angles to principal front.

extent lost when seen from the piazza—almost the only possible point of view.

It was apparently during his second or final period in Rome that Vignola became attached to the Cardinal Alessandro Farnese, nephew of Pope Paul III., a man of great wealth and influence, who became his greatest patron. This princely ecclesiastic seems to have been one of the most enlightened of his class, and to have exercised with much discrimination that encouragement of the arts which his wealth and position allowed and to which his inclinations prompted him. Recognising the genius and merit of Vignola, he gave him frequent employment in his important artistic enterprises. For him he completed the front, towards the Tiber, of the Farnese Palace, built by his uncle and considered in many respects the finest palace in Rome, and designed some doors, internal ornaments, mantel-pieces and other decorations. The great crowning cornice of the exterior, added by Michael Angelo, bears evidences of being profiled by Vignola and has his characteristic enrichments. For the Cardinal, who was at the time Vice-Chancellor, he added at San Lorenzo in damaso (part of the chancellery) the beautiful Corinthian portal which provides so attractive a plate in his book on architecture. It detracts somewhat from the merit of this door, as executed, that little attempt was made at harmony with the older work of Bramante's palace —an instance where absolute independence was obviously not desirable. For the principal entrance to this same Cancelleria Palace Vignola gave a design, illustrated in his book, which was not carried out—the present doorway being by Domenico Fontana, the papal architect under Sixtus V.

In the year 1568 the Cardinal Alessandro Farnese commenced the Church of the Gesù, attached to the "maison Professe" of the Society of Jesuits, whom his uncle Paul III. had favourably received and established in Rome. For this Vignola produced a noble design—the plan being in the form of a Latin cross with an apsed end, ten side chapels, and a dome over the crossing. The large order of the interior is composite, as given in his book on the orders, and carries the roof vault.* This splendid church, one of the richest and most notable in Rome, unfortunately affords an instance where the display of wealth, and a consequent extravagance of decoration, somewhat hinders a right appreciation of its original simple and elegant disposition and fine proportions. The church was not completed until the year 1575, two years after Vignola's death, so that he carried it only as far as the cornice, and the vault, dome, and entrance portal were finished by Giacomo della Porto, his pupil, who appears to have not too scrupulously followed his master's design. St. Ignatius is buried beneath the chapel dedicated to his name, and its singular and debased altar, designed by Andrea Pozzo, is reputed to be the richest in the world. The gorgeous tomb is in striking contrast to the life of poverty of the saint.

Other works attributed to Vignola which may be mentioned here are the fountain of the Piazza della Rocca at Viterbo, erected by the Cardinal in 1566; the Lante Villa at Bagnaja (in association with other artists) in the same district, with its terraces and gardens; the oratory of S. Marcellus; the chapel of the Abbé Riccio in the Church of S. Caterina; and a town house, or front of one, in the Piazza Navona, the three latter being in Rome. He also made restorations and additions at the Florentine palace in Rome, which included open loggias on two floors facing the gardens, and many beautiful decorations. The date of his work here is about 1560.

In one of the illuminating phrases in which Forsyth discusses the arts in Italy he remarks that "a few cardinals created all the great villas of Rome. Their riches, their taste, their learning, their frugality, all conspired in this single object. While the eminent founder was squandering thousands on a statue, he would allot but one crown for his own dinner. He built indeed for his own pleasure, or for the admiration of others; but he embellished his country, he promoted the resort of rich foreigners, and he afforded them a high intellectual treat for a few paulo, which never entered into his pocket." The Cardinal Farnese, whom we have mentioned, was one of these. He conceived the idea of building a country villa, and in doing so gave Vignola the opportunity to produce a masterpiece. True, his Castle of Caprarola was far removed, by its remote and solitary situation, from the possibility of any extensive enjoyment by the public, but it was executed on a scale of magnificence and taste at least as much calculated for the advancement of the arts as it was creditable to the Farnese family. The site chosen was an extraordinary one, in the wild, hilly district at the Viterbo edge of the Roman Campagna and on the lower slopes of the volcanic Monte Cimino, about thirty-five miles from Rome. Woods, rocks, and precipices are the characteristic features of this country, and the palace is enclosed by steep rocks and further shut in by the higher slopes of the mountains, so that, approaching by a valley which terminates the principal avenue, the traveller halts astonished at the surprising scene which such a superb building presents in so solitary a spot. The genius of Vignola is shown in the masterly placing of the building and its appurtenances on the hillside site, so that the rising steps and terraces as they approach the house, and the gardens and the small but beautiful structure known as the Palazzuola as they recede from it beyond, enhance the natural beauty of the scene, the products of art merging

* See D'Aviler's *Cours d'Architecture* for some illustrations and further particulars of this church.

into nature at the summit, and the castle forming the central feature of a vast natural amphitheatre. The nature of the site and the character of the times no doubt suggested the expression given to the building—a blend of the elegance of a palace with the strength of a fortress. The pentagonal plan suits the situation well, the moat and bastions with their bridge approaches adding dignity and grandeur to the building. The general arrangement of the gardens, terraces, staircases, fountains, and the "satyric" grotto, in relation to the building will be seen by a reference to the ground plan, section, and general view (figs. 2, 4 and 1).* It will be noticed from the plan that the stables and domestic offices were designed to form two blocks, separated from the main building, except for the connecting subways, but these were not carried out in this manner. The kitchens, cellars, larders, and servants' offices generally are accommodated in the basement of the building. The notable features of the castle itself are the noble circular internal courtyard, about 65 feet in diameter, with its circumscribing open-arcaded loggias, giving that cool shade to the interior so necessary in Italian houses, and the clever and ingenious planning whereby the stately apartments are regularly fitted to the unusual shape of the building and most compactly arranged. As Mr. Anderson has remarked,* in speaking of Vignola as the author "of a pentagonal castle, an elliptically domed chapel, and a semicircular court, it will be obvious that Vignola strove after originality, which he attained in ways certainly more legitimate than those of the succeeding century." One is tempted to extend his period, with qualifications, to the present day, when licence in the forms and details of Renaissance art has become generally so unrestricted and libertine.

FIG. 5.—CASTLE OF CAPRAROLA: CIRCULAR INTERNAL COURTYARD

* The two plans and the section are compiled from *Œuvres complètes de Vignole* by MM. Debret and Lebas (Paris, 1815), which though not complete, as its name suggests, is a sumptuous work, most creditable to its authors, and to which the reader is referred for complete details of some of Vignola's works. The excellent photographs were obtained in Rome, but I regret to have forgotten the name of the photographer.—F. R. H.

* *The Architecture of the Renaissance in Italy*, by W. J. Anderson.

The plans given of the two principal floors, with the explanatory notes, will explain the general arrangement of the building, and make a detailed description unnecessary. It will be seen that the arcaded loggias of the circular court give access to the building at various points on the ground and first floors, and the terrace above serves the same purpose on the second floor. The heights of the two arcaded orders of the courtyard, embracing these two stories, are about 27 feet and 31 feet respectively, making the circular architectural screen within them appropriately treated with that fine taste which Vignola invariably showed. The crowning feature of the exterior of the building is very similar to the "cornicione per un palazzo" which is illustrated in Vignola's book, in which also appears the very fine Doric entrance portal of the castle and windows in the Doric and Ionic stages of the building.

The elevation of the satyric grotto, which appears in the foreground of the general view (fig. 1), is one of the pleasing features which give variety

FIG. 6.—CASTLE OF CAPRAROLA: UPPER LOGGIA OF COURTYARD.

of the court nearly 60 feet in total height. The highest portion of the roof of the building approaches 120 feet above the bottom of the moat; the extreme width from each face to the point of the pentagon exceeds 200 feet, the sides themselves being nearly 150 feet wide, so that it will be seen that the size of the building is considerable. There have been few country houses executed on so imposing a scale, and Gwilt's opinion "that a more magnificent villa does not exist in Europe" seems quite justified. The four stages in the height of the building are represented architecturally by the Tuscan, Doric, Ionic, and Corinthian orders, with windows, doors, and other features comprised to its main approach. Some of the decorative sculptures designed for the exterior appear to have been omitted in execution. The treatment of the interior courtyard (fig. 5) could hardly be better, except that perhaps the arcaded screen is somewhat too high in proportion to the width of the open space which it encloses. The ingenious arrangement of the roofs and the lighting of the stories which occur within them will also be noted.

Turning now to the interior: the number, size, and disposition of the apartments indicate the palatial scale of the building. The most striking feature architecturally is the principal staircase —Scala Reggia—of most original design, ascend-

ing from the ground floor to the third floor of the building. The plan is circular, and the staircase string, which takes the form of a Doric entablature on a raking angle, is carried on a series of coupled columns, which support also in this way the curved and winding soffite vault of the stairs. The effect is, both constructively and æsthetically, remarkable (see figs. 7 and 8), and shows much boldness and originality. The stilt-blocks between the column caps and the architrave of the ramped entablature are necessarily somewhat unpleasant in appearance. It will be noticed that on the first floor the main staircase is balanced by the chapel, also circular in plan, at the opposite end of the great hall. Service staircases are provided within the thicknesses of walls in various parts of the building, as may be seen by a reference to the plans and section.

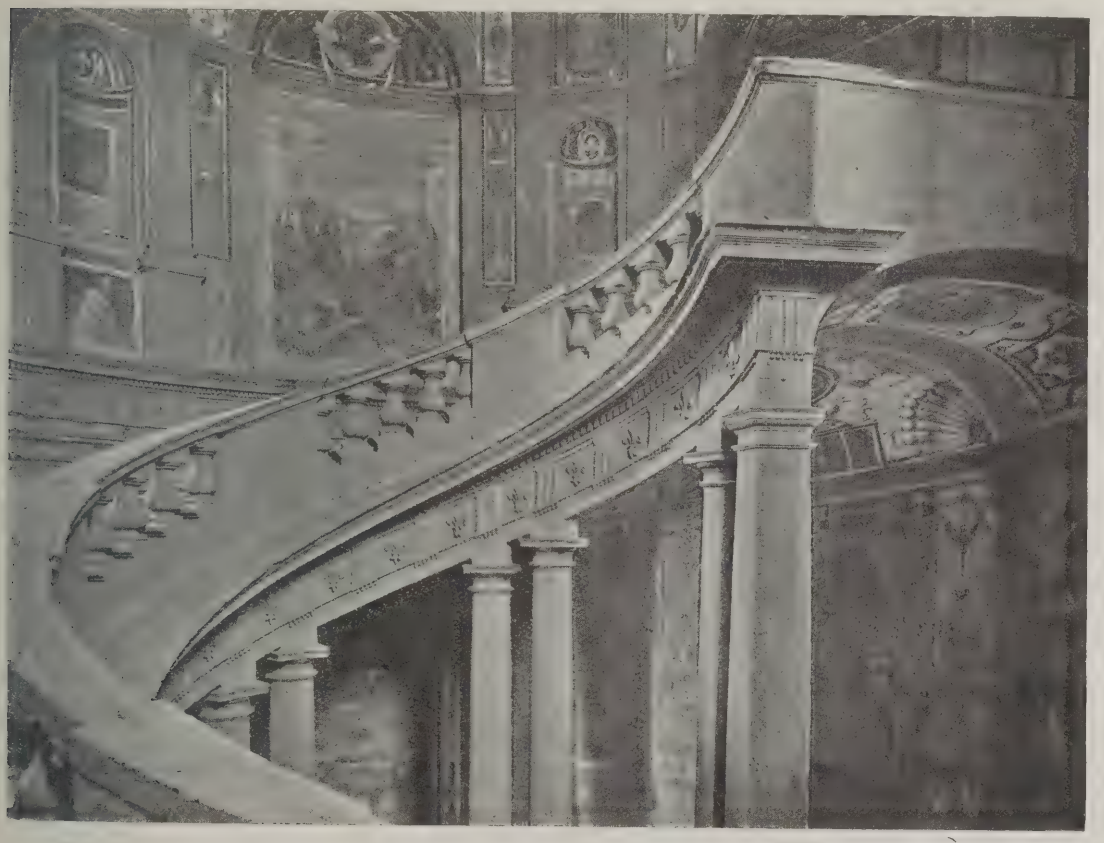


FIG. 7.—CASTLE OF CAPRAROLA—TOP OF PRINCIPAL STAIRCASE.

But, apart from the purely architectural qualities of the building, the applied colour decorations are also notable. Paintings adorn the walls and ceilings of all the principal apartments, the loggias and staircase, most of them showing conventionalised ornament of a class specially interesting to artists engaged in the study of colour as applied to architecture. The chief painters were Taddeo and Federigo Zucchero, Antonio Tempesta, who chiefly executed the arabesque ornaments; Raffaellino da Regio, a man of great talent who died young; and Vignola himself, who carried out the perspectives in which he so delighted. Taddeo Zucchero particularly had great abilities, and on his death was buried beside Raphael in the Pantheon at Rome. It was of him that Lanzi,* in the account he gives of his works, says that " none of his productions have added so much to his celebrity as the pictures in the Farnese palace of Caprarola." The subjects of the paintings are of great variety—allegorical and symbolical—with a large number also dealing historically with the civil and military triumphs of the illustrious Farnese family and of their alliances with other great houses. Annibale Caro, the distinguished Italian poet, and Francesco Molza, another writer of that time—both of whom were in the service of the family—suggested

* *The History of Painting in Italy*, by Luigi Lanzi (Roman School—Epoch 3).

a number of these subjects. To detail them would require more space than is at our disposal. The historical subjects include portraits of many great and noble persons; others typify, or symbolise, summer, autumn, spring, winter, night, dawn, sleep, time, the heavens, earth, sea, as might suggest themselves as suitable according to the aspect, use, or purpose of the apartments; while in other cases the stories are from pagan and other authors. Those who wish for a detailed description of these will find it in Vasari's work.* The tainous scenery of the Campagna beyond, is regarded as superb. The malarial atmosphere—that curse of the Campagna—must alone have marred its suggestions of delight.

The small hunting lodge in the neighbourhood of Caprarola, known as the Casin del Barco, is also thought to be Vignola's work. Small wonder is it, in view of the many excellences of the Castle of Caprarola, that St. Carlo Borromeo, when he visited there, is credited with being scandalised at its magnificence, and to have exclaimed "Che

FIG. 8.—CASTLE OF CAPRAROLA—PRINCIPAL STAIRCASE, LOOKING UP.

views of the staircase and courtyard loggia (Nos. 6, 7, & 8) give an indication of some of the painted decorations.

The small Palazzuola, or Casino, previously referred to, which is charmingly situated in the upper gardens, is also the work of Vignola, and reflects equal credit on him with the palace itself. The view from here, looking over gardens, terraces, fountains, and cascades, into the mountains sarà il paradiso! Oh! meglio sarebbe stato aver dato a' poveri tanto danaro spesovi." To which the Cardinal Farnese made the very sensible reply, "That instead of giving this money to the poor, he had preferred to let them earn it"—a philosophical opinion with the wisdom of which architects, as a class, will not be inclined to quarrel. The celebrated and learned Daniello Barbaro, commentator of Vitruvius, friend of Palladio, and one of the most judicious critics of architecture of his day, also journeyed here to examine a building to which report gave so great a reputation, and

* See also Prenner's *Illustri Fatti Farnesiani coloriti nel Real Pal. di Caprarola*, Rome, 1748.

his enthusiastic verdict was "Non minuit, immo magnopere vicit præsentia famam"—that its actual appearance even exceeded its fame.

The palace bears now those evidences of neglect so often found in the great houses of Italy, but the suggestion of glories which have departed cannot divest it of the dignity and impressiveness inseparable from so scholarly a work.

Vignola, as another of his later works, advised the Baron Bernardino Martirani on the designs he had collected, for King Philip II. of Spain, for the church and palace of the Escurial, which when built was regarded as the eighth wonder of the world. Among the competitors were Galeazzo Alessi of Genoa, Pellegrino Tibaldi of Milan, Andrea Palladio of Vicenza, Vincenzo, Dante Perugino, and the Drawing Academy of Florence. Vignola made a composite design, embodying the peculiar excellences of all these—a somewhat questionable expedient, one would think—with such skill and discernment that Philip II. wished to adopt it. Vignola was invited to visit Spain for its execution, and many advantageous conditions were proposed to him, but his age, and his great attachment for St. Peter's and for Rome, caused him to refuse them. His design was accordingly not carried out.

Vignola appears to have made the design for the Church of S. Maria Scala Coeli, one of the group of three churches built on the site outside Rome where, according to legend, St. Paul was beheaded, and not far from the Basilica of S. Paolo Fuori le Mura. This little church, which takes its name from St. Bernard's vision of the heavenly ladder, was built about the year 1580 by Cardinal Farnese, after Vignola's death, under the direction of Giacomo della Porto, his pupil. The plan is octagonal, covered by a dome, and alternate faces of the octagon have circular projecting apses, covered by semi-domes, forming chapels in the interior. The arrangement of plan and fine proportions of its elevation combine to make a building of much interest and originality. The decorations too are good and include mosaics by F. Zucchero.

Pope Gregory XIII. and the Duke of Florence having differed as to the limits of their estates near Citta di Castello, Vignola was deputed on the part of his Holiness to determine them. He acquitted himself of this commission to the satisfaction of the Holy Father, and being returned, after walking for more than an hour with the Pope, giving him an account of the affair, he took leave of his Holiness, intending to go on the following day to Caprarola. That same night, however, he was taken ill with a fever, which continued from then, the 1st day of July, until the 7th, on which day he died, in the year 1573, at the age of sixty-six. The Academicians of Drawing carried him, with much funeral pomp, to the Pantheon of Rome where he worthily rests with Raphael, Baldassare Peruzzi, Taddeo Zucchero, and other great artists buried there. It was, as D'Aviler said, but meet "que le plus célèbre architecte de son temps, fust enterré dans le plus beau et le plus magnifique édifice du monde."

As a man Giacomo Barozzi was "of an agreeable complexion; sincere, prompt to assist others, patient and cheerful." * Like his contemporary Palladio, his personal qualities seem to have been of the best, and the singular modesty of his disposition is indirectly attested by the poor reward he so often received for his labours—the all too common fate of men of sensitive and retiring natures. He was held in high esteem during his life, and has been equally so regarded since, being so imbued with the true spirit and feeling of the Architectural Renaissance that in his practice of the art, and in his teaching, he showed, in W. J. Anderson's words, that "it has its own artistic value apart from Greece or ancient Rome." As has been said of him, "His works are distinguished for elegance combined with solidity, and the absence of all evidence of caprice; being the issue of a fruitful imagination under the guidance of a pure taste and sound judgment, which qualities he possessed in perhaps a greater degree than any architect of his century." By the originality and resource of his executed works, as well as by the simple and easily understood rules and principles laid down in his writings, he proved the adaptability of ancient Roman art to the differing and very varied needs of modern life—such varied application and expression being, from the ecclesiastical and domestic standpoints particularly, the great and essential difficulty which Renaissance architects were required to face. Vignola, in grappling with this problem, displayed such ingenuity and discriminating taste as may well entitle him to grateful remembrance—so much so indeed, that even the critical and exacting Milizia is forced to the admission, which we may well endorse, that "Architecture is eternally obliged to him."

* *Lives of Celebrated Architects*, by Francesco Milizia (Mrs. Cresy's translation).

LINCOLN CATHEDRAL: A NEW READING.

I have only to-day seen the Papers by Messrs. Bond and Watkins, as I receive the quarterly parts of the JOURNAL, and I do not know if any correspondence has followed. The scheme set forth as a restoration of St. Hugh's work is so extraordinary that I feel that it can only be accepted after quite overwhelming evidence has been brought forward. My purpose in writing is to ask for further proof, for I believe all the points already presented *might* be explained in other ways than is done by the authors.

I could not be rash enough to deny the possibility of their scheme without a special examination *ad hoc*; everything is possible, and evidence quite irresistible may be available; but it is desirable, I think, to express doubt at once so that conclusive evidence may be looked for if it exists.

At first sight the curious double wall shaft on either side of an opening taking the place of the ordinary bay division seems to be impossible; so does the height of the triforium openings which show nearly 20 feet of *effective* height from the *string* to their crowns; so does the continuous row of large lancets in the clerestory making what Mr. Bond himself calls an "almost continuous sheet of glass." The central support of the whole theory is the existence of three small arches under the three lights of the clerestory bays, arches which spring from the height of the clerestory passage and yet open into the top of the triforium space. At the back between each group of three there appears to be another which is now blocked up. Mr. Bond takes these to be the heads of old triforium openings. Now at Canterbury there occurs what I suppose to be a nearly parallel arrangement. In walking along the choir clerestory we find arched openings from the height of our feet to our knees, and stooping down we may look into the triforium space. Instead of three openings there is one which is in fact the upper part of a single big inner arch, but the principle seems to be the same. At places in this passage we even find a dip such as that described at Lincoln on p. 46. (I believe there is a description of these openings and a wood-cut of them in Willis's *Canterbury*.*) The use of relieving arches over the triforium openings was very general, but they are usually as at Canterbury in one span. On all the evidence that is yet before us I think it is likely that in this, as so many points, Lincoln followed Canterbury. I need not go further, for all the new theory stands or falls with the explanation given to these openings. If Mr. Bond's explanation is upheld, then in expressing any more objections I am only putting myself more in the wrong. However, I cannot think that the present triforium front was designed after that of the nave; it seems to me to have been founded on that at Canterbury, and, I think, it was itself copied at Holyrood. Again, I cannot think that the two bays of blank arcade on the exterior between the clerestory triple-lancets could ever have been inserted so neatly in place of a clerestory window. The arches which appear at the back of these, showing in the pockets of the vaults, I suppose, with Parker, were "lancet-shaped panels." If they are moulded they would have shown between the clerestory windows under a level wooden roof; if they are not moulded they might be recesses to lighten the structure and would then be some evidence for a vault.

He who would read Lincoln aright must I am convinced first learn very thoroughly Canterbury, and then pass on and consider Holyrood with its sexpartite vaults. If the ground arcade narrowed at the east end with two bays in line, I would suggest that this is taken over from the narrowing of the presbytery at Canterbury, where *two* bays also slant at a somewhat similar angle. The eastern chapel would then have been suggested by the corona, and the whole becomes an adaptation from Canterbury.

There are many of us who will not follow Mr. Bond when he speaks of "an interior of such wretched proportions as are seen in the present choir" of Lincoln Cathedral (p. 43).

On a separate point, Mr. Bond says, "when the clerestories of the choir were vaulted, the windows were considerably obstructed; it was probably to minimise the obstruction as much as possible that the queer design of the present choir vault was due." I remember examining this many years ago in view of Willis having called it a "crazy vault," and I came to the conclusion that as the bays are of different widths and as the first narrow one is sexpartite, the wider ones were also made to have six ribs, but in different fashion, so that in the perspective view they harmonise remarkably. Notice how the cell of the wide bay next the sexpartite cell exactly repeats it, the diagonal ribs springing at the *same angle* in both bays. One is a true sexpartite vault, the other may be called an eccentric sexpartite vault.

Lincoln is a very great puzzle, and detailed studies like this of Messrs. Bond and Watkins will certainly help towards conclusions being reached; I hope they won't mind if some (or at least one) express doubts which they may yet be able to allay.

27*th January* 1911. W. R. LETHABY [*F.*].

* Yes, on p. 49; but it does not there appear that the upper opening is into the *clerestory* passage.—W. R. L.

ARCHITECTURAL EDUCATION:

Class Method or Correspondence Method.

In the issue of the JOURNAL dated 21st January a notice is published of a meeting held at Birmingham on 13th January at which the question of the professional training of young architects was discussed. In the notice the method of the International Correspondence Schools is compared with the class method to the disadvantage of the latter, the statement being made that "when one had to read and write things in order to gain the necessary information, as was the case

with the I.C.S. method, there was more certainty of lasting results being obtained than in the case of the class method, where things heard often go in at one ear and out at the other."

This is an extremely important matter to those interested in architectural education, for if it can be shown that teaching by correspondence is, in the nature of things, better than that given by a teacher in the presence of the student, then surely the formation of schools of architecture in London and other large cities (including Birmingham) has been a great mistake, and the Institute and the Allied Societies have been ill-advised in supplying these schools.

As very considerable publicity is being given at the present time to statements written in praise of Correspondence Schools, I trust it will not be thought that I am wasting valuable space in the JOURNAL if I attempt to show some of the advantages of the class method, though I must say that I feel I am dealing with the obvious in so doing.

Teaching architecture by correspondence is by no means a novelty, as there are several gentlemen who have been engaged in this kind of work for some years. I understand that most, if not all, of these gentlemen reserve correspondence teaching for those of their students who live at a distance, preferring to teach personally students living sufficiently near.

The argument in the quotation given at the beginning of this note appears to be based on the fallacy of comparing the reading of the matter supplied by the Correspondence School, plus the answering of papers, with the lecture part alone of the class method. If, however, we compare the lecture with the reading alone I think we shall find that the advantage is with the former, as a lecturer can generally tell if his remarks are being understood; and if he feels they are not, he can stop and explain the point more fully. The answering of papers for the Correspondence School may then be compared with similar work done in the class method. I see no reason why the latter should not be as lasting in its effects as the former.

Most of the students get into difficulties with their work; it is the best thing that can happen to them, and the questions given after the lectures should be so set that they will get into difficulties. The student who has some pluck has a good struggle with the obstacle, and emerges all the better for the conflict whether he wins or loses. If after a fair struggle he is beaten, then he needs assistance, and I think it requires no stretch of imagination to see that here the class method has a distinct advantage over the Correspondence School. I have done no teaching by correspondence, but I have no hesitation in saying that a difficulty which would lead to a lengthy correspondence in one method would be settled in five minutes in the other.

When it comes to a consideration of equipment, the advantage again is all on the side of the class method. What has the Correspondence School to offer as a substitute for the collections of reference books, lantern slides, casts, models, specimens of materials, &c., provided in the class method? Think of the wonderful equipment of the Manchester Municipal School of Technology, to mention one example out of many; are we to abandon this kind of thing and teach by correspondence? And are laboratories altogether useless? Can Theoretical and Applied Building Construction, the Chemistry and Testing of Materials, Mechanics, Physics, Sanitation, &c., be taught better by correspondence than by lectures, demonstrations, and experiments?

Under the class method, visits are arranged to buildings in course of erection, and to workshops; and the students sketch and measure worthy buildings. In some cases this important work forms an essential part of the course of instruction. This obviously cannot be done by correspondence, and if the Correspondence Schools encourage it, the student must either be left to his own devices in carrying it out or personal tuition must be introduced.

Mr. Cross has explained in the *Builder* (1st October 1910) that the subjects of study are presented to the students of the International Correspondence School "in the most concise and simple form possible" and "shorn of all extraneous matter which would appeal only to the man of general culture." I think it may safely be stated that this is a point in which the teaching given by this school differs very considerably from that given in the schools of architecture recommended by the Board of Architectural Education, and here again I think the advantage is not with the Correspondence School.

Another important difference is indicated in the following paragraph taken from the prospectus of the I.C.S. under the heading "How to become an architect": "Artistic ability is not necessary for the mastery of this course. The schools guarantee its successful completion to all who study faithfully and follow our instructions"; and, later, "anyone who can read and write and will apply himself to study can master any of our courses." I do not remember seeing anything quite like this in the prospectus of any of the recognised schools of architecture.

To sum the matter up, it seems that the correspondence method (which is perhaps most satisfactory when in the hands of men whose qualifications are known) may be advantageous in the case of students living at some considerable distance from the nearest university or technical institute, and who cannot afford to live away from home, or for men who have served their articles and find they can no longer attend lectures at fixed hours; but all students who can manage to do so, should avail themselves of the educational facilities of which particulars are given in the R.I.B.A. Kalendar.

W. S. PURCHON [*A.*].

THE ARCHITECTS' CLUB, 1791.

The following notes relative to the Architects' Club, additional to those made by Mr. Harry Sirr in the issue of the JOURNAL for 7th January, may be of interest :—

There is a pamphlet in the Soane Museum entitled "Resolutions of the Associated Architects, with the Report of a Committee by them appointed to consider the Causes of the frequent Fires, and the best means of preventing the like in future." The Introduction, which is dated 26 July 1793, consists of four paragraphs, the first of which is as follows :

"Early in the last year the Association of Architects in London, consisting of the following Professors, Robert Brettingham, Joseph Bonomi, John Carr, Sir William Chambers, Samuel Pepys Cockerell, George Dance, Thomas Hardwick, Henry Holland, Richard Jupp, James Lewis, Robert Mylne, James Payne, Nicholas Rivett (*sic*), Thomas Sandby, John Soane, James Wyatt, John Yenn, Esquires ; took into consideration the causes of the frequent Fires within the limit of the Act of the 14th of Geo. III. ch. 73, for the further and better regulations of Buildings, and Party Walls, &c., &c. ; and the best means that can be adopted for preventing the like in future."

This is succeeded by the following Resolutions :

"At a meeting of the Society, London, February 21, 1792, Resolved, That a Committee of the whole Club be appointed to consider the causes of the frequent Fires within the limits of the Act of the 14th Geo. ch. 78, for the further and better regulation of Buildings and Party Walls, &c., &c., and the best means that can be adopted for preventing the like in future."

"January 3, 1793.

"Received the Report of the Committee appointed to consider the causes of the frequent Fires, and the best means of preventing the like in future ; and Ordered, that the same be entered in the Minutes of the Association."

"March 7, 1793.

"RESOLVED : That the Report of the Committee appointed to consider the causes of the frequent Fires, and the best means of preventing the like in the future, be printed ; and that Mr. Holland be desired to procure the same to be done."

Then follows the Report itself, extending to some sixty pages, one of the most interesting features in it being that the Committee anticipated by nearly a century the useful work of the British Fire Prevention Committee. They hired two houses left in carcass, one in Hans Place and the other in Hans Town, and fitted up portions of them with carpenters' and joiners' work, protected by various fire-resisting materials, for the purpose of making experimental tests. These were set on fire, and observations noted from time to time of the effects of the fire in each case.

The immediate importance of the pamphlet lies in the fact that it shows that the Architects' Club was not merely a dining club, but was an Association or Society which had its proceedings recorded on Minutes, and that one of its objects was the promotion of professional knowledge. It will be noted that the name of Joseph Bonomi has been added to the list of 1791, and that those of Robert Adam, Richard Norris, and James Gandon are omitted. Adam died in the early part of 1792, and Gandon, being resident in Ireland, would have been unable to take any active part in the investigation.

There is also in the Soane Museum an amusing *jeu d'esprit* in manuscript, being an imaginary examination of a candidate for admission to the Club. It is somewhat severe on the supposed practices of its members, and was very probably written by Soane himself ; it is not dated, but, from certain remarks which occur in it, it cannot be earlier than 1796.

WALTER L. SPIERS [*A.*].

THE CHURCH OF THE HOLY SEPULCHRE, JERUSALEM.

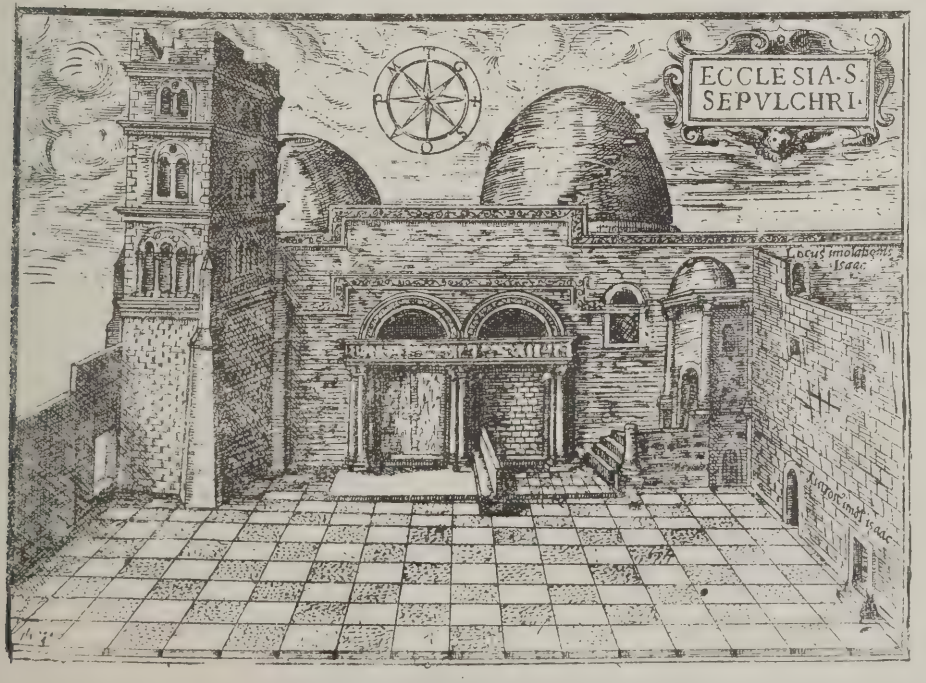
I notice in the Paper by Mr. George Jeffery on the Church of the Holy Sepulchre, Jerusalem, in the JOURNAL R.I.B.A. 1910 (pp. 709, 750, 803), that fig. 26, p. 814 (from R. P. F. Noë, *Viaggio al S. Sepolcro*), is described as "the earliest woodcut representation of the Church" and as about 1500. I believe no edition of this work is known prior to 1529, and the cut seems to have been taken from an edition of 1600 or even later. The cut itself is of very little value, as the *original view* (the first ever printed) is to be found in the *Peregrinationes* of *B. von Breydenbach*, first published at Mainz in 1486 (editions both in Latin and German). This and the other views in the 1486 book were drawn on the spot, in July 1483, by an artist of Utrecht, Erhard Reuwich, and are evidently authentic as well as artistic.

I append a photographic reproduction of the cut of the church taken from the undated German edition attributed to a press at Speier, and published immediately after the first edition from which it is copied. It will be seen that the view is the same as the modern photograph opposite p. 709 of the JOURNAL. I am able to include also a reproduction of the engraving from Zuallardo, 1587, referred to by Mr. Jeffery, and the following additions to the Bibliography :—

	Date of Journey
(Anonymous) Voyage de la Sainte Cyté de Hierusalem. No edition before 1517 (Paris) is known : no illustrations	1480
Nicolas le Huen (Carmelite of Pont Audemer, confessor of Charlotte, queen of Louis XI.). Account of his own travels (in French) with Breydenbach as a basis. Lyons : 1488. With *copies* of the original cuts of 1486	1487
Bartholomæus à Saligniaco : Itinerarii Terræ Sanctæ. Lyons : 1525. No illustrations . .	1522
Fuerer (Christopher, of Haimendorf) : Itinerarium Nürnb. 1621. With engravings of the Church (and plan), the Sepulchre, Tombs of Godefroy and Baldwin (larger than Zuallardo's engravings)	1566
Doubdan (J., canon of S. Paul's Church at S. Denis) : Voyage de la Terre Sainte, Paris 1661. With engraving of the Sepulchre, &c.	1652

H. W. DAVIES.

B. VON BREYDENBACH, *Peregrinationes*, Mainz 1486. Earliest woodcut view of church.



ZUALLARDO: *Viaggio di Gerusalemme*. Rome 1587.

9 Conduit Street, London, W., *4th February* 1911.

CHRONICLE.

The Prizes and Studentships : Addresses to Students : Presentation of Mr. Ernest George's Portrait.

A large and representative gathering assembled at the Institute on the 30th ult. to hear the annual Addresses to students and witness the presentation of prizes. The designs and drawings submitted in this year's competitions had been on view in the new Galleries of the Institute for a fortnight previously, and the meeting being held in the room where the principal designs were displayed, the audience were able to follow Professor Reilly's criticism with an interest and intelligence that were not always possible under the old conditions. The Exhibition has proved the admirable adaptability of the Galleries for purposes of this kind. At no time before have the works been hung to greater advantage, or viewed under happier conditions. During the fortnight the Galleries were open to the public, the Exhibition was visited by little short of two thousand persons.

The preliminary business of the meeting included the announcement by the President that the Council proposed to submit to his Majesty the King the name of Dr. Wm. Dörpfeld, of Athens, as a fit recipient for the Royal Gold Medal of 1911, in recognition of his distinguished services to architecture. Dr. Dörpfeld has been a Corresponding Member of the Institute since 1891.

Referring to the award of this year's prizes and studentships the President announced that the author of the drawings under the motto " Civitas " in the Soane Competition having failed to comply with the conditions and withdrawn from the competition, the Council had decided not to award the Soane Medallion this year. Further, that it had been decided to award the Godwin Bursary and the sum of £65, subject to the specified conditions, to Mr. Cecil Brewer.

A pleasing ceremony of the evening which took place after the delivery of the addresses was the formal unveiling by Sir Aston Webb of the portrait of the Past-President, Mr. Ernest George, A.R.A., painted by Sir Hubert von Herkomer, R.A., and presented to the Institute by the subscribers. Sir Aston Webb's remarks are appended.

Votes of Thanks.

Sir Aston Webb, C.B., R.A. [*F.*], said he rose to make a rather voluminous series of proposals—first to propose a vote of thanks to the President for his address, then to Professor Reilly for his criticism of the drawings, and then to ask the Institute's acceptance of a picture. He was sure they had all listened to the President's Address with a great deal of pleasure. Judging from the applause which greeted the President's proposal—that next year a student should deliver the Address to Students and receive twenty guineas for his pains—the idea seemed to give much satisfaction. He almost wished that the President had asked some student to reply that evening and given him the right to frankly express his opinion on the President, the Council, and the Fellows of the Institute ! They would, he thought, have had a much more interesting speech than anything he (Sir Aston) was likely to say. The President's advice was to cultivate youth and to keep it green. The President had done that so well for himself that he certainly was qualified to advise others on the matter. In case, however, his remarks should tend to undue elation in the young men and undue depression in the old, he might perhaps remind them of that never-to-be-forgotten address which Ruskin gave to the Architectural Association. " Remember," he said, " that the highest nobleness is usually found amongst the aged, the poor, and the infirm ; it is not the strong arm of the soldier or the laugh of the young beauty that makes the best studies for you." He hoped those remarks would be some satisfaction to those who were not as young as they would like to be ! The President had referred to the great advantage it was to have the drawings around them when the criticism was read. He was sure they all appreciated that. As one who regretted that their old meeting-room could no longer be used, he should like to congratulate the Honorary Secretary on the very admirable alterations he had made. He ventured to think that they met very well the wishes of those interested. Throughout the President's Address there was a touch of what they all felt there should be in an address of this sort—of seriousness and encouragement to the students. Architecture was a serious matter. It was something for which a man would spend his life. They were very fortunate to be engaged in an occupation which was worthy of the highest thoughts the mind could have—that they were at work not only in the path of duty and for the pleasure and taste of the people, but for their comfortable housing and for the convenience of every branch of life in which they were concerned. Therefore they were all proud of being connected with this profession. He believed that the students would work so that in due course they might take an active part and pleasure in it, and, as the President had said, do all in the way that would become an

English gentleman.—He would also like to ask the meeting to pass a vote of thanks to Professor Reilly for his criticism of the drawings. He hoped the students had appreciated the privilege of hearing so competent a critic upon their work. Professor Reilly had performed his task without fear and without favour. The authors of some of the designs may have felt that he was severe, but they would all feel that his remarks had been made in a kindly and friendly spirit. He echoed the hope of the President that those who had been criticised would not take it lying down, but would turn up next year with still finer designs, which would win them prizes. They were fortunate to have had Professor Reilly to go through these drawings and undertake the extremely onerous task of criticising them.—He had also the great pleasure on behalf of the subscribers to ask the President to accept for the Institute a portrait of their Past-President, Mr. Ernest George. Mr. George had so recently occupied the Chair that it was not necessary to refer to him at any length. They all knew Ernest George—"earnest" by name, earnest by nature, and still more earnest in his work. They all knew him, and he thought he might say they all loved him as well. He was an artist all round, and one who had always looked on his work first of all from an artistic point of view, which was the point of view from which architects should look upon their work. In Sir Hubert Herkomer's picture they would recognise a faithful and excellent portrait of their Past-President. Speaking as a layman in such matters, it appeared to him to be an excellent likeness; the pose and the hands especially were Mr. George's to the life. They were very fortunate in having had Sir Hubert Herkomer to paint this portrait; he wondered they had never had a Herkomer before: his picture would lend additional grace to their walls. They were greatly indebted to the distinguished painters who had painted these portraits in such a liberal way for them. Therefore, in asking the President to accept this picture for the Institute, he should like him to convey to Sir Hubert Herkomer their best thanks for his excellent portrait and their high appreciation at having a work of his hanging upon their walls.

Mr. Selwyn Image, in seconding the vote of thanks, said he was quite aware that he had received the honour of being asked to be present that evening not as being due to himself personally, but as a recognition of the post of which he was at present the unworthy occupant. There was one thing in the President's breezy, virile, and encouraging Address which must have gone straight home to the hearts of the students, and which would be heartily acknowledged by them. When he was elected to the post of Slade Professor of Fine Arts at Oxford, he assured them no one was more astonished than himself, and he felt that a very important work had been laid upon him, and that many difficulties lay in the way of its fulfilment. One of those difficulties had been touched upon by the President. He stated that very little drawing was taught in the public schools, and that the Universities were only just beginning to open their eyes to the fact that the architectural profession existed at all. That was a remark which touched him very closely. From a certain point of view he had always been under the impression that architects were recognised at the Universities, and, to use one of the President's athletic expressions, that they had not altogether had their innings. There might be a somewhat more serious side to the question than that; and although he was not in a position to say that things had been misrepresented, he wished with all his heart that he could. They would perhaps forgive him a few personal reminiscences; but a few days before he delivered his inaugural Lecture, he met a friend who said he had just met a Master of Arts of the University of Oxford who asked him what he was doing. "Well," he said, "I am going to a sort of little send-off which is being given to the new Slade Professor of Oxford, in the shape of a little meeting of friends to wish him God-speed, and so forth." The Master of Arts looked him full in the face and said: "My good friend; you don't mean to tell me the University of Oxford ever takes a Slade Professorship or a Slade Professor seriously?" That was not a very encouraging thing to have said to one—neither was it quite true. So far as his experience had gone, the University of Oxford had not only been extremely kind to him personally but had also taken him seriously. Still no doubt it did not recognise, as it should, the fine arts, and especially that Queen of the Fine Arts, architecture. He was not present to prophesy, nor to boast of anything he was able to do; but, at any rate, he was entirely in earnest in his work, and though his knowledge of architecture was perhaps little, he thought he might say that he had, just as much as any layman, a sense of what was beautiful in architecture, and no one could have a greater sense of the enormous influence which architecture had upon the civilised world. He would at least promise that, spurred on by what their President had said, he would do his very utmost to bring home to the University the enormous importance of recognising architecture as the Queen of the Arts.

Mr. Ernest George, A.R.A., who was received with loud and prolonged applause, said it was very gratifying to him to know that they cared to have this flattering representation of a President who had done his poor best for two years in his office. He shared with them the delight which had been expressed in their excellent pictures. It was a grand thing to have in their possession so fine a collection of the works of modern masters. He respected painters very much, and he thought it was wonderful what they accomplished, having only architects to deal with. If they were Doges of

Venice they could not be more honoured. He was proud to be placed amongst those who had done good work for the Institute in the past.

The PRESIDENT, having briefly responded to the vote of thanks, said he accepted for the Institute with very great pleasure the excellent portrait of their deservedly popular Past-President, Mr. Ernest George. He only hoped that some day he might receive similar acclamation to that which had been accorded to Mr. George when he rose a few minutes before.

Professor REILLY said that, having had over 300 drawings to go through and essays to read, it was a very difficult matter to do justice to all the good work shown, but if he had been a little severely critical occasionally it was only in the hope that some benefit would accrue. He had looked through some of the addresses of this kind delivered in past years, and he found that one of the most stimulating was that of Mr. Paul Waterhouse, who had not refrained from saying what he thought—and this, after all, was the only kind of criticism which was worth anything; therefore if he had trodden upon any toes he hoped he should be excused.

The Presentation of Prizes then took place.

The Mall Improvement.

The *Times* of the 30th ult. published the following letter from the President of the Institute:—

Westminster: 28th January 1911.

SIR,—Will you allow me to endorse Sir R. M. Beachcroft's suggestion, that the King Edward Memorial Committee provide the balance of the funds necessary to complete the end of the Mall next Charing Cross, and to take his suggestion even a step further; for it is not so much funds that are wanted as a *modus vivendi*. At present two great bodies are trying to score off each other as to who should undertake the work and accept the responsibility for it, while the whole nation, from the King downwards, is chafing at the delay; and this may go on for years unless some way out of the *impasse* can be found at once.

Now, as the First Commissioner of Works, the Chairman of the London County Council, and the Mayor of Westminster are all on the King Edward Memorial Committee, these gentlemen—who represent the three bodies most interested in the scheme—should form the nucleus of a sub-committee, which, with the advantage of our very able Lord Mayor as chairman, could, in a very few minutes, decide upon a mode of procedure which would solve all difficulties and get us our great processional road in time for the Coronation, and so complete what is already—as far as it goes—a great metropolitan improvement.

We English may not be clever—as you, Sir, pointed out in a leading article the other day—but we know at any rate when a game has gone far enough; and I am sure every one is tired of this fencing match—which may only result in our looking ridiculous before the world in a few months' time—and would hail with delight any prospect of our getting the Mall finished at once.

Yours faithfully,

LEONARD STOKES, P.R.I.B.A.

The Need of Civic Survey Preparatory to Town Planning.

The Cities Committee of the Sociological Society have issued the following Memorandum on "The Need of City Survey Preparatory to Town Planning":—

A.—PROPOSED CITY SURVEY AND LOCAL EXHIBITIONS PREVIOUS TO TOWN-PLANNING SCHEMES.

I.—Summary of the Committee's Work.

We welcome and highly appreciate the Town-Planning Act, and we early decided that it was not necessary for this Committee to enter into its discussion in detail, or that of its proposed amendments. We have addressed ourselves essentially to the problem of Town-Planning itself, as raised by the study of particular types of towns and districts involved; and to the nature and method of the City Survey which we are unanimously of opinion is necessary before the preparation of any Town-Planning Scheme can be satisfactorily undertaken. We have reason, however, to fear that schemes are in incubation, alike by municipal officials, by public utility associations, and by private individuals, expert or otherwise, which, whatever their particular merits, are not based upon any sufficient surveys of the past development and present conditions of their towns, nor upon adequate knowledge of good and bad Town Planning elsewhere. In such cases the natural order, that of Town Survey before Town Planning, is being reversed; and in this way individuals and public bodies are in danger of committing themselves to plans which would have been widely different with fuller knowledge, yet which, once produced, it will be too late to replace, and even difficult to modify.

We have therefore, during the past three years, addressed ourselves towards the initiation of a number of representative and typical City Surveys, leading towards Civic Exhibitions, which we hope to see under municipal auspices in conjunction with Public Museums and Libraries, and with the co-operation of leading citizens representative of different interests and points of view. In Leicester and Richmond, Woolwich and Chelsea, Dundee and Edinburgh progress has been already made; and with moderate outlays, including the necessary skilled and clerical assistance, we should be able rapidly to promote and assist such surveys in many other towns and cities. Our experience already shows that in this inspiring task of surveying, usually for the first time, the whole situation and life of a community in past and present, and of thus preparing for the planning scheme which is to forecast—indeed, largely decide—its material future, we have the beginnings of a new movement—one already characterised by an arousal of civic feeling and a corresponding awakening of more enlightened and more generous citizenship.

II.—Recommendation by the Committee.

The preparation of a local and civic survey previous to the preparation of a Town-Planning Scheme, though not actually specified in the Act, is fully within its spirit, and we are therefore most anxious that at least a strong recommendation to this effect should form part of the Regulations for Town-Planning Schemes prepared for the guidance of Local Authorities by the

L.G.B. Without this municipalities and others interested are in danger of taking the very opposite course, that of Planning before Survey. Our suggestion towards guarding against this is hence of the most definite kind, viz. :—

> *Before proceeding to the preparation of a Town-Planning Scheme, it is desirable to institute a Preliminary Local Survey—to include the collection and public Exhibition of maps, plans, models, drawings, documents, statistics, &c., illustrative of Situation, Historic Development, Communications, Industry and Commerce, Population, Town Conditions and Requirements, &c.*

We desire to bring this practical suggestion before Local Authorities, and also to ventilate it as far as may be in public opinion and through the press, and in communication to the many bodies whose interest in Town-Planning Schemes from various points of view has been recognised in the Third Schedule of the Act, as lately amended by the Government in response to representations from our own and other societies.

III.—Dangers of Town Planning before Town Survey.

What will be the procedure of any community of which the Local Authorities have not as yet adequately recognised the need of the full previous consideration implied by our proposed inquiry, with its Survey and Exhibition? It is that the Town Council, or its Streets and Buildings Committee, may simply remit to its City Architect, if it has one, more usually to its Borough Surveyor or Engineer, to draw up the Town-Planning Scheme.

This will be done after a fashion. But few of these officials or of their Committees have as yet had time or opportunity to follow the Town-Planning movement even in its literature, much less to know it at first hand, from the successes and blunders of other cities. Nor do they always possess the many-sided preparation, geographic, economic, artistic, &c., which is required for this most complex of architectural problems, one implying moreover innumerable social ones.

If the calling in of expert advice be moved for, the Finance Committee of the Town Council, the ratepayers also, will tend to discourage the employment of an external architect. Moreover, with rare exceptions, even the skilled architect, however distinguished as a designer of buildings, is usually as unfamiliar with town-planning as the town officials; often, if possible, yet more so. For they have at least laid down the existing streets; he has merely had to accept them.

No doubt if the plan thus individually prepared be so positively bad, in whole or in part, that its defects can be seen by those not specially acquainted with the particular town or with the quarter in question, the Local Government Board can disapprove or modify. But even accepting what can be thus done at the distance of London, or even by the brief visit from a Local Government Board advisory officer, the real danger remains. Not that of streets, &c., absurdly wrong perhaps, but of the *low pass standard*—that of the mass of municipal art hitherto, despite exceptions, usually due to skilled individual initiative.

Town-Planning Schemes produced under this too simple and too rapid procedure may thus escape rejection by the Local Government Board rather than fulfil the spirit and aims of its Act; and will thus commit their towns for a generation, or irreparably, to designs the coming generation may deplore. Some individual designs will no doubt be excellent, but there are not as yet many skilled town-planners among us. Even in Germany, still more in America (despite all recent praise, much of which is justified), this new art is still in its infancy.

As a specific example of failures to recognise and utilise all but the most obvious features and opportunities of even the most commanding sites, the most favourable situations, Edinburgh may be chosen. For, despite its exceptional advantages, its admired examples of ancient and modern town planning, its relatively awakened architects, its comparatively high municipal and public interest in town amenity, Edinburgh notoriously presents many mistakes, disasters, and even vandalisms, of which some are recent ones. If such things happen in cities which largely depend upon their attractive aspect, and whose town council and inhabitants are relatively interested and appreciative, what of towns less favourably situated, less generally aroused to architectural interest, to local vigilance and civic pride? Even with real respect to the London County Council and the record of its individual members, past or present, it must be said that this is hardly a matter in which London can expect the provincial cities to look to her for much light and leading as a whole, while her few great and monumental improvements are naturally beyond their reach.

In short, *passable* Town-Planning Schemes may be obtained without this preliminary Survey and Exhibition which we desire to see in each town and city; but the best *possible* cannot be expected. From the confused growth of the recent industrial past, we tend to be as yet easily contented with any improvement; this, however, will not long satisfy us, and still less our successors. This Act seeks to open a new and better era, and to render possible cities which may again be beautiful: it proceeds from Housing to Town (Extension) Planning, and it thus raises inevitably before each municipality the question of Town Planning at its best—in fact, of City Development and City Design.

IV.—Method, and Uses of Preliminary Survey.

The needed Preliminary Inquiry is readily outlined. It is that of a City Survey. The whole topography of the town and its extensions must be taken into account, and this more fully than in the past, by the utilisation not only of maps and plans of the usual kind, but of contour maps, and, if possible, even relief models. Of soil and geology, climate, rainfall, winds, &c., maps are also easily obtained or compiled from existing sources.

For the development of the town in the past historical material can usually be collected without undue difficulty. For the modern period, since the railway and industrial periods have come in, it is easy to start with its map on the invaluable "Reform Bill Atlas," and compare with this its plans in successive periods up to the present.

By this study of the actual progress of town developments (which have often followed lines different from those laid down or anticipated at former periods) our present forecasts of future developments may usefully be aided and criticised.

Means of communication in past and present, and in possible future, of course, need specially careful mapping.

In this way also appears the need of relating the given town not only to its immediate environs, but to the larger surrounding region. This idea, though as old as geographical science, and though expressed in such a term as "County Town," and implicit in "Port," "Cathedral City" &c., &c., is in our present time only too apt to be forgotten, and town and country interests treated separately with injury to both. The collaboration of rustic and urban points of view, of county and rural authorities, should thus as far as

possible be secured, and will be found of the greatest value. The recent agricultural development in Ireland begins to bring forward the need of a more intelligent and practical co-operation of town and country than has yet been attempted; and towards this end the proposed survey would be found of immediate value.

Social surveys of the fulness and detail of Mr. Booth's well-known map of London may not be necessary; but such broader surveys as those of Marr, in his "Survey of Manchester," or of Miss Walker, for Dundee, and the like, are most desirable wherever adequate civic betterment is not to be ignored.

The preparation of this survey of the town's past and present may usually be successfully undertaken in association with the town's library and museum, with such help as their curators can readily obtain from the town house, from fellow-citizens acquainted with special departments, and, when desired, from the Sociological Society's Cities Committee. Experience in various cities shows that a Civic Exhibition can readily be put in preparation in this way, and without serious expense.

The urgent problem is, however, to secure a similar thoroughness of preparation of the Town-Planning Scheme, which is so largely to determine the future.

To the exhibition of the city's past and present there therefore needs to be added a corresponding wall-space (*a*) to display good examples of Town Planning elsewhere; (*b*) to receive designs and suggestions towards the city's future. These may be received from all quarters; some, it may be, invited by the municipality, but others independently offered, and from local or other sources, both professional and lay.

In this threefold exhibition, then, of their borough or city, past, present, and possible, the municipality and the public would thus practically have the main outlines of the inquiry needful before the preparation of the Town-Planning Scheme clearly before them; and the education of the public, and of their representatives and officials alike, may thus—and, so far as yet suggested, thus only—be arranged for. Examples of town plans from other cities, especially those of kindred site or conditions, will here be of peculiarly great value—indeed, are almost indispensable.

After this exhibition—with its individual contributions, its public and journalistic discussion, its general and expert criticism—the municipal authorities, their officials, and the public would be in a very different position as regards knowledge and outlook from that which they occupy at present, or can occupy if the short and easy off-hand method above criticised be adopted, obeying only the minimum requirements of the Act. The preparation of a Town-Planning Scheme as good as our present (still limited) lights allow, can then be proceeded with. This should utilise the best suggestions on every hand, selecting freely from designs submitted, and paying for so much as may be accepted on ordinary architectural rates.

As the scheme has to be approved by the Local Government Board, their inspector will have the benefit of the mass of material collected in this exhibition, with corresponding economy of his time and gain to his efficiency. His inspection would essentially be on the spot; any critic who may be appointed would naturally require to do this. His suggestions and emendations could thus be more easily and fully made, and more cheerfully adopted.

The selection of the best designs would be of immense stimulus to individual knowledge and invention in this field, and to a worthy civic rivalry also.

V.—Outline Scheme for a City Survey and Exhibition.

The incipient surveys of towns and cities, above referred to, have already clearly brought out their local individuality in all respects, in situation and in spirit. No single scheme of survey can therefore be drawn up so as to be equally applicable in detail to all towns alike. Yet unity of method is necessary for clearness, indispensable for comparison; and after the careful study of schemes prepared for particular towns and cities, your sub-committee has agreed upon a general outline, applicable to all towns, and easily elaborated and adapted in detail to the individuality of each town or city. It is therefore appended, as suitable for general purposes, and primarily for that preliminary survey previous to the preparation of a Town-Planning Scheme which is the first and last recommendation of this Committee.

The survey necessary for the adequate preparation of a Town-Planning Scheme involves the collection of detailed information upon the following heads. Such information should be as far as possible in graphic form—*i.e.* expressed in maps and plans illustrated by drawings, photographs, engravings, &c., with statistical summaries and with the necessary descriptive text, and is thus suitable for exhibition in town house, museum or library, or, when possible, in the city's art galleries.

The following general outline of the main headings of such an inquiry admits of adaptation and extension to the individuality and special conditions of each town and city. The preparation of more detailed schemes of survey is already being advanced—*e.g.* for Leicester, Woolwich, Richmond, Chelsea, Dundee, Edinburgh, &c., and this Committee is prepared to assist with others as far as its resources may allow.

Situation, Topography and Natural Advantages.

(*a*) Geology, Climate, Water Supply, &c. (*b*) Soils, with Vegetation, Animal Life, &c. (*c*) River or Sea Fisheries. (*d*) Access to Nature (Sea Coast, &c., &c.).

Means of Communication, Land and Water.

(*a*) Natural and Historic. (*b*) Present State. (*c*) Anticipated Developments.

Industries, Manufactures and Commerce.

(*a*) Native Industries. (*b*) Manufactures. (*c*) Commerce, &c. (*d*) Anticipated Developments.

Population.

(*a*) Movement. (*b*) Occupations. (*c*) Health. (*d*) Density. (*e*) Distribution of Well-being (Family Conditions, &c.). (*f*) Education and Culture Agencies. (*g*) Anticipated Requirements.

Town Conditions.

(*a*) Historical: Phase by Phase, from Origins onwards. Material Survivals and Associations, &c. (*b*) Recent: Particularly since 1832 Survey, thus indicating areas, lines of growth and expansion, and local changes under modern conditions, *e g.* of streets, open spaces, amenity, &c. (*c*) Local Government Areas (Municipal, Parochial, &c.) (*d*) Present: existing Town Plans, in general and detail. Streets and Boulevards. Open Spaces, Parks, &c. Internal Communications, &c. Water, Drainage, Lighting, Electricity, &c. Housing and Sanitation (of localities in detail). Existing activities towards Civic Betterment, both Municipal and Private.

Town-Planning; Suggestions and Designs.

(A) Examples from other Towns and Cities, British and Foreign. (B) Contributions and Suggestions towards Town-Planning Scheme, as regards:—

(*a*) Areas. (*b*) Possibilities of Town Expansion (Suburbs, &c.). (*c*) Possibilities of City Improvement and Development. (*d*) Suggested Treatments of these in detail (alternatives when possible).

B.—Suggested Cities Exhibition.

The remarkable success of the Town-Planning Conference last October reflects the greatest credit upon its organisers, the Royal Institute of British Architects; and these will be the first to recognise how very

largely the success has been aided by the accompanying large and varied Town-Planning Exhibition held by them in the galleries of the Royal Academy. The participation of municipalities, British and foreign, the interest expressed by the Press, and by an increasing section of the public, and perhaps, above all, the active participation and eloquent advocacy of its President, the Rt. Hon. John Burns, have all combined to increase the usefulness of this two-fold event. From this date, in fact, a new period is opening for the extension and the internal improvement of our Cities; and thus we may confidently hope for their survey and interpretation, as the safest and most direct way of preparation —preparation, that is, of plans and of public opinion alike.

For a great educational work has still to be done before the mass of the public, their municipal representatives, and executive officials can be fully prepared for action upon the best lines. Hence the need for a well-chosen series of other surveys such as that outlined for Edinburgh in the recent and the coming Town-Planning Exhibition; and next for the combination of these into a National Survey of all our towns and cities, and these in their regional setting.

Before this National Survey can be hoped for, however, another Exhibition must doubtless be arranged—and this time a Cities Exhibition proper. That is to say, it should be no mere collection of such city plans as may happen to be obtainable at the moment, but designed from the outset, as with time and moderate outlay it easily may be. Thus it should present as vividly as may be, an outline of the geographic origins and extensions of a representative selection of typical cities. It should trace these phase by phase, from these small beginnings onwards, to their historic or contemporary greatness, and all these with analysis and exposition of their advantages and qualities, their drawbacks and defects; in fact, of their elements of progress and of deterioration. This geographic and historic treatment would in many cases throw fresh light upon our studies of contemporary life, as notably upon that great "Survey of London," by the Rt. Hon. Charles Booth, to which the civic movement is so largely indebted.

The choice of cities would necessarily depend not only upon available space, but upon resources and workers, and similarly the modes of presentment. This, however, should by no means be of plans only. Peculiarly rich and manifold in suggestiveness in this regard was the Paris Exposition of 1900, with its panoramas on all scales from the magnificent "Stockholm" to the modest, yet vivid, "maquettes" of Paris and other cities which adorned the galleries of the Congrès de l'Art Public. The current interest in cinematograph shows, comparatively small and limited as these are as compared with panoramas proper, is evidence that a public ready to appreciate the spectacular beauty and protean interest of the life and history of cities has now fully arisen. Nor is there anything unduly "popular" in this. The more vividly concrete our impression of a city can be made, the more we shall be able to realise its historic and actual significance and to appreciate its plans.

Such an Exhibition would thus be upon the considerable scale to which the public are now accustomed; but pending this a smaller type Exhibition is not only practicable, but actually in progress at Crosby Hall, Chelsea.

Cities and Town-Planning Exhibition, Crosby Hall, Chelsea.

This Exhibition has arisen as a sequel to the Town-Planning Exhibition organised last October by the Royal Institute of British Architects in the Galleries of the Royal Academy. The present aim, however, is to prepare a smaller but more typical collection, suitable for smaller galleries in London and other cities. It is being attempted to provide (*a*) a broad general view of the present state of the Town-Planning Movement, with an introduction to its procedure; (*b*) a number of broad outlines and suggestive examples of the Surveys of Characteristic Cities, made as recommended in the Sociological Society's memorandum above printed; and finally (*c*) an exhibit of the further study of cities, with special reference to the actual and possible contribution of each main interest, occupation, and profession to the betterment of city life. Each of these main branches of the subject should, as far as possible (as already at Chelsea), have its own gallery.

The Exhibition will be opened on Monday, 6th February, at 8.30 p.m., by its President, The Rt. Hon. John Burns, M.P., who will deliver an Address on "Civics and Town Planning."

German Town Planning Tour.

The Garden Cities and Town Planning Association are arranging for a Town Planning Tour in Germany at Easter, starting on Thursday, 13th April, for the purpose of studying some of the most interesting examples of German Town Planning. The towns which it is hoped to visit include Essen, Cologne, Dusseldorf, Frankfurt, Mannheim, Heidelberg, Ulm, Nuremberg, Stuttgart and Dresden, with excursions from these centres to industrial villages and other places of interest in the neighbourhood. Many of the councillors and officials of the towns to be visited have already been the guests of the Garden Cities and Town Planning Association in England, and are anxious to provide the fullest opportunities for the return visit, which will be officially recognised by the various authorities. The German Garden City Association will undertake the details of the programme and provide for efficient interpreters throughout. A warm welcome is assured everywhere, and the fullest official information will be placed at the disposal of the visitors.

Experience of the Housing and Town Planning Act of 1909 will have given to members and officials of local authorities knowledge of the points upon which information is most required, and this tour will afford an excellent opportunity of securing this at first hand. The primary object of the tour being an effective study of Town Planning Powers and Possibilities, membership will be confined to those having direct interest in the subject, in its various aspects. Ladies will be welcomed among the party, and several are already included in the list.

In order to provide for both those who would wish to return early and those who would desire a more prolonged study, the tour will be divided into two parts, the first party returning from Frankfurt

or Mannheim. The price for the first portion (nine days) will be eleven guineas, and the extension (a further five days) five guineas. This price will include : second class railway throughout and first class steamer ; hotel accommodation and meals (excepting wines), gratuities to servants, &c. ; conveyances in the various towns visited.

All applications and inquiries should be addressed to Mr. Ewart G. Culpin, Secretary, Garden Cities and Town Planning Association, 31 Birkbeck Bank Chambers, Holborn, London, W.C.

Mr. Fred Rowntree is arranging for a group of young architects to accompany the tour to study the various towns in company and with expert guidance.

International Competition for Plans for "Palais de Justice" at Athens.

The Greek Minister in London sends to the Institute, for the information of the architectural profession in the British Isles, particulars of an International Competition which is being promoted by the Hellenic Government for a " Palais de Justice " to be erected in Athens. The conditions were published in Greek and French in the *Government Gazette* of the 10th/23rd December, a copy of which may be seen in the Institute Library. Appended is an unofficial translation :—

INTERNATIONAL COMPETITION FOR THE PREPARATION OF PLANS FOR THE ERECTION OF A " PALAIS DE JUSTICE " AT ATHENS.

The Ministry of the Interior hereby gives notice of an international competition for the preparation of plans for the erection of a Palais de Justice at Athens.

The competition will take place subject to the following conditions :—

1. The Palais de Justice is to be erected upon a site situate at the point of intersection of the Boulevard de Kephissia and the Rue Régile. The form of the building is to be rectangular. Two sides are to be each 100 metres long, one of which will run along the Boulevard de Kephissia, and the other along the unnamed street parallel with the said boulevard, and the two other sides each 80 metres long, of which one will run along the Rue Régile and the other along the small square parallel therewith.

2. The Palais de Justice to be erected must include : (1) The Court of Cassation ; (2) the Court of Appeal ; (3) the Court of Assizes ; (4) the Criminal Court ; (5) the Court of First Instance ; (6) two Police Courts ; (7) four Courts for the Justices of the Peace with the offices attached thereto and its dependencies.

3. In addition to the vestibules, corridors, lavatories, &c., required, the Courts to be erected must include the aforesaid number of halls and chambers suitably arranged for the requirements of each Court. The dimensions of the halls, chambers, &c., must be adequate to their object in each case.

COURT OF CASSATION.—Two public halls 15 metres by 8 metres approximately ; 3 consulting-rooms ; 1 room for the President's office ; 1 room for the Secretary's office ; 4 rooms for the clerks' offices ; 1 room for the barristers ; 1 room for the library ; 2 rooms for the records ; 1 room as cloakroom ; a number of rooms in proportion for the ushers of the Court.

COURT OF THE ATTORNEY-GENERAL FOR THE COURT OF CASSATION.—One room for the Attorney-General's office ; 1 room for the office of the Deputy Attorney-General ; 2 rooms for the clerks' offices ; 1 room for barristers ; 1 room for the records ; a number of rooms in proportion for the ushers of the Court.

COURT OF APPEAL.—One public hall 28 metres by 10 metres approximately ; 3 consulting-rooms ; 1 room for the President's office ; 1 room for the Secretary's office ; 1 room for barristers ; 1 room for the library ; 4 rooms for the clerks' offices ; 3 rooms for the records ; 1 room as cloakroom ; a number of rooms in proportion for the ushers of the Court.

COURT OF THE ATTORNEY-GENERAL FOR THE COURT OF APPEAL.—One room for the office of the Attorney-General ; 1 room for the office of the Deputy Attorney-General ; 4 rooms for the clerks' offices ; 1 room for barristers ; 1 room for the records ; a number of rooms in proportion for the ushers of the Court.

COURT OF ASSIZES.—One public hall 30 metres by 15 metres approximately ; 1 consulting-room ; 1 room for the President ; 1 room for the jury ; 1 room for the Secretary ; 1 room for barristers ; 2 rooms for the witnesses ; 1 room for the accused ; 1 room for the police ; a number of rooms in proportion for the ushers of the Court.

CRIMINAL COURT.—One public hall 30 metres by 15 metres approximately ; 1 consulting-room ; 1 room for the Public Prosecutor ; 1 room for the President ; 1 room for the Secretary ; 1 room for the barristers ; 2 rooms for the witnesses ; 1 room for the prisoners.

TRIBUNAL OF FIRST INSTANCE. — One public hall 28 metres by 13 metres approximately ; 1 consulting-room ; 1 room for the President ; 1 room for the Public Prosecutor ; 3 rooms for the Secretary ; 3 rooms for the barristers ; 1 room for the examining magistrate ; 3 consulting-rooms for the various departments ; 26 rooms for the officers of the Tribunal of First Instance and for the Police Court ; 4 small rooms for the examination of evidence ; 2 rooms for the witnesses ; 1 room for the Recorder ; a number of rooms in proportion for the records of civil and criminal actions ; 3 spare rooms and a proportionate number of rooms for the ushers of the Court.

COURT FOR THE EXAMINATION OF WITNESSES IN THE COURT OF FIRST INSTANCE.—Ten rooms for the examining magistrates ; 3 rooms for the witnesses ; 2 rooms for the accused ; 2 spare rooms ; a number of rooms in proportion for the ushers of the Court.

COURT FOR THE PUBLIC PROSECUTOR OF THE TRIBUNAL OF FIRST INSTANCE.—Two rooms for the Public Prosecutor ; 4 rooms for the Deputy Public Prosecutor ; 6 rooms for the clerks ; 2 rooms for the accused ; 2 spare rooms ; a number of rooms in proportion for the ushers of the Court.

FOR EACH POLICE COURT.—One public hall 28 metres by 14 metres approximately ; 1 room for the office of the Police Court magistrate ; 1 room for the office of the Secretary ; 1 room for the Public Prosecutor : 1 room for the staff ; 1 room for witnesses ; a number of rooms in proportion for the ushers of the Court.

FOR EACH JUSTICE OF THE PEACE.—One public hall 28 metres by 14 metres approximately ; 1 room for the office of the Justice of the Peace ; 1 room for the Secretary's office ; 1 room for the clerks' office ; 1 room for the witnesses ; a number of rooms in proportion for the ushers of the Court.

4. The floors and roofs of the building must be uninflammable, and their system of construction illustrated by means of detailed drawings on a large scale, accompanied by the requisite particulars set forth in specification form.

5. The style of architecture of the Courts must harmonise with the uses to which they are to be put, and the exterior should express artistically the purpose of

the building. The interior arrangements must be such as to meet the requirements of each part, to be in harmony with its object, to respond to all the needs imposed by its purpose, and to fulfil the conditions required by hygiene and safety.

6. The maximum cost is fixed at 4,000,000 drachmas (=£160,000).

7. The competition being international, any native or foreigner who has the necessary architectural knowledge and who complies with the conditions of the competition shall be qualified to participate therein.

8. The competitors must submit—

1. A plan for each floor on a $\frac{1}{100}$ scale.

2. A plan for the four frontages of the building on a $\frac{1}{100}$ scale.

3. Two or more longitudinal and transverse sections at such points as the competitor shall deem necessary for the purpose of rendering his plan more intelligible.

4. Drawings on a larger scale of the principal architectural and structural details as the competitor may think advisable.

5. A perspective view showing the frontages of the building overlooking the Boulevard de Kephissia and the Rue Régile.

6. Full preliminary measurements of the works.

7. A scale of prices.

8. An analysis of prices.

9. A detailed specification of the works so prepared that the author may be able to undertake the erection of the building on the basis of the prices fixed by him.

10. A detailed specification (*devis détaillé des travaux*) preceded by a correct description of the works to be carried out and of the building as a whole.

11. A specification wherein will be shown by analytical calculations or graphic data the dimensions given to the various parts of the building, the coefficients of stability whereof are usually determined by calculation, such as gables, arches, floors, &c. Such specification shall also include a concise scheme for the heating, ventilation, lighting, and acoustic properties of the halls.

9. Plans unaccompanied by any of the drawings or documents hereinbefore mentioned will not be considered.

10. All the drawings and documents hereinbefore mentioned, with a sum of 200 drachmas for payment of the fees of the jury, must be delivered at the Architectural Department of the Central Office of Public Works at the Ministry of the Interior on Monday, the 8th/21st August, 1911, at noon, under sealed cover of suitable size, and accompanied by an envelope enclosing the name of the author of the plans and bearing a distinctive motto outside. Such motto must be inscribed on the cover, and also on all the drawings and other documents.

11. Any plan not deposited within the aforesaid time will not be accepted.

12. The Committee who will examine the plans submitted will be appointed by us on the 9th/22nd August, 1911, and they will be required to give their decision within two months from the date of their appointment.

13. From among the plans submitted for consideration, the Committee will select two. The author of the first will receive a prize of 20,000 drachmas (about £800), and that of the second a prize of 8,000 drachmas (about £324).

14. The decision of the Committee will be final and be published in the official journal in Greek and in French.

15. After the delivery and publication of the decision of the Committee, the drawings of the plans submitted will be exhibited for a fortnight in one of the halls of the Ecole Polytechnique.

16. The plans which have not been accepted will be returned without the cover containing the name of the author having been opened.

17. This notice shall be published in the official journal in Greek and in French.

(*Signed*) E. Repoulis,
The Minister of the Interior.

Election of Licentiates R.I.B.A.

At the Council Meeting of the 30th January the following candidates, having been found eligible and qualified under the Charter and By-laws, were elected Licentiates R.I.B.A., in accordance with the provisions of By-law 12:—

BALE: Alfred (Portsmouth).
BERKELEY-MILLER: Fredric.
COX: Arthur Stanley (Reading).
CRANE: Lionel Francis.
CUNLIFFE: Robert Hargreaves (Accrington).
DAVIDSON: John (Dumfries).
DIXON: Willie (Barnsley).
DRIVER: Arthur James.
FERMAND: Edmund Auguste.
FINCHETT: Frederick William (Southport).
GARDNER: Hampton (Cheltenham).
GEESON: Herbert Lambert.
GREGG: Theodore.
GRIFFITHS: William (Birkenhead).
HARRIS: John Oliver (Preston).
HARRISON: Edward Lewis (Gold Coast, W. Africa).
HASWELL: Frederick (North Shields).
HOARE: Edward Barclay.
HOOKWAY: Gilbert John Frank.
HORNE: David Edmund Attree (Golspie, N.B.).
HUMPHRY: Alfred Gilson.
JONES: Gascoigne Hastings Fowler (York).
LAWRENCE: Albert Herbert Orlando (Southport).
McGAREL-HOGG: The Hon. Archibald.
McINTOSH: David Gordon (Liverpool).
McKERROW: Duncan (Manchester).
MILLER: Albert Phillip (Stone, Staffs).
MORTER: Sidney Pelham (Liverpool).
NEWTON: John Richard (Birkenhead).
NORTH: John Harry Francis (Cork, Ireland).
PHILLIPS: Alfred John.
POLLARD: William (Sheffield).
PORTER: Bernard Arthur (Birmingham).
RHODES: Herbert Sydney.
RICHARDSON: Albert Edward.
RICHARDSON: John Ernest.
ROLFE: William Benjamin (Bath).
ROUND: Abel (Birmingham).
STEVENSON: George Henry (Northampton).
TILLEY: Robert Thomas.
WALL: John Henry (Otley, Yorks).
WHEELER: Montague (Reading).
WILLEY: Frederick (Durham).
WYNNES: James Cumming (Edinburgh).

Mr. Ernest Newton, *Vice-President R.I.B.A.*, has been elected Associate of the Royal Academy.

Obituary.

ALEXANDER CUNNINGHAM FORRESTER (*Fellow*, elected 1904) died at Hampstead, N.W., on 12th January, at the age of fifty-four. Mr. Forrester served his articles under the late John Lessels, of Edinburgh, afterwards entering the offices of Sir Rowand Anderson, of Edinburgh, Messrs. Jas. Salmon & Son, and H. and D. Barclay, of Glasgow. He came to London to the Architects' Department of the School Board. After some years there he became chief assistant in the office of Karslake & Mortimer, and was appointed Surveyor to the Hospital for Consumption on Mr. Karslake's retiring from that position, and started in practice for himself. His practice was chiefly of a private character, but among his works may be mentioned: choir and clergy stalls at St. Andrew's Church, West Kensington, and decorations there and at St. Peter's, Great Windmill Street; additions to the Morgan Crucible Co.'s Works, Battersea; The Priory, Roehampton; St. Andrew's Presbyterian Church, Bermondsey, S.E.; and, in conjunction with Mr. John C. T. Murray [*F.*], St. Andrew's Church, Blackrock, co. Dublin, and houses at Putney, S.W.

Mr. ANDREW MURRAY, who died on the 17th January, aged seventy-two years, was elected an Associate of the Institute in 1872 and Fellow in 1899. Mr. Murray was educated at the City of London School, and entered the Architect's Department of the City Corporation in 1854, serving in succession under J. B. Bunning, Sir Horace Jones, and A. M. Peebles. Upon the death, in May 1891, of A. M. Peebles, the titular office of Architect to the Corporation was abolished, and Mr. Murray was appointed City Surveyor. After fifty years' service, he retired upon a pension in May 1904. Mr. Murray was the architect of the City of London Court in Basinghall Street; the Weights and Measures Offices, Guildhall, and offices on the site of the City Chamberlain's Office; Ward's City of London Girls' School, Victoria Embankment; City Police Stations, in the Minories, and in Moor Lane; extension, with thirty new classrooms, of the Guildhall School of Music; enlargement, at a cost of 250,000*l.*, of the City of London Asylum, Stone, near Dartford, with chapel, two infirmaries, etc.; extensions, begun in 1896, of the Deptford Foreign Cattle Market, comprising the new piers and lairages, having a river frontage of 300 yards, the chill and cooling stores, boiling-houses, slaughter-houses, and many other buildings, at an outlay of some 160,000*l.*; Sanitary Hospital, and the Water Tower at Denton, near Gravesend for the (old) Port of London; premises on the site of Nos. 73–101 Old Kent Road for the Bridge House Estates Committee, and the Leroy Street improvement; City Mortuary, Shelter, etc., Golden Lane; crematorium, City of London Cemetery, Little Ilford; Queen Victoria, and City Boundary, Memorial, Victoria Embankment; restoration in 1900 of the porch (1425), and oaken doors, in the fifteentth century style, Guildhall; enlargement of the Guildhall Art Gallery; and decoration (by Gillows) of the Mansion House; and rebuilding on the John Carpenter Estate of the Corporation, between Gower Street and Tottenham Court Road, as originally planned, with the two circuses, by the younger Dance. He was associated with Mr. G. E. W. Cruttwell in the widening of London Bridge in 1902–4.

LEGAL.

Contract: Employment of Architect: Preparation of Plans for Building not carried out: Remuneration: The Institute Scale.

SEWARD *v.* LORD MAYOR AND CORPORATION OF CARDIFF.

This action, which arose out of the Cardiff Corporation's scheme for the erection of the Welsh National Museum, was heard before the Official Referee, Mr. Muir Mackenzie. The earlier stages of the hearing are reported in *The Times* of the 19th December. At the conclusion of the last sittings the hearing was adjourned, and was continued on the 11th and 12th January, when the Court reserved judgment.

The claim of the plaintiff, Mr. Edwin Seward, of Cardiff, was for a sum of about £9,000 under a contract with the Cardiff Corporation, by which the Corporation employed the plaintiff as architect to design and superintend the erection of a National Museum for Wales, the ground for the claim being that the Corporation discontinued the employment of the plaintiff, and, under powers conferred by Act of Parliament, transferred the enterprise to a National Council for Wales, who have employed other architects to do the work.

The case for the plaintiff was that the design for which he was instructed to prepare plans was for a museum to cost about £150,000, and that the work which he had to do before his dismissal occupied several years, and that, both under the contract and by the scale of remuneration usually payable to an architect who has prepared plans for a building which is not carried out, he was entitled to the sum which he claimed.

The Corporation contended that they had power under the contract, or by Act of Parliament, to act as they did and discontinue the undertaking, and were only liable to pay the plaintiff remuneration measured by the value of the work which he did. This value the defendants estimated at £1,500, which sum they paid into Court.

In support of the plaintiff's case, Mr. Edwin T. Hall, who was one of the judges of the designs for the new National Museum, and Mr. Lanchester, one of the architects of the Cardiff Municipal Buildings, were called. On the side of the Corporation Mr. Wm. Woodward, one of the architects of the Piccadilly Hotel, and Mr. Harrison were called.

Mr. Ernest Pollock, K.C., and Mr. Vaughan Williams appeared for the plaintiff; Mr. B. Francis Williams, K.C., Mr. Sankey, K.C., and Mr. St. J. Francis Williams for the defendants.

We are indebted to *The Times* of the 2nd February for the above notes and for the following report of the Referee's judgment:—

Mr. Muir Mackenzie, in the course of his judgment, said that the leading facts and events out of which the controversy between the plaintiff and the defendant Corporation had arisen might be shortly stated as follows:—

The Corporation made a contract with the plaintiff

dated 21st December 1901, and duly sealed with the Corporation seal, for the employment of the plaintiff as architect for the erection of museum buildings at a site situated at Cathays Park. Before that date, and before the Corporation contemplated building a museum on the site in Cathays Park, the plaintiff had, in the course of some years previous to the year 1900, been employed by the Council of the Corporation, or by its Committees, in the preparation of plans and design for a museum to be erected on a site in Park Place; the plaintiff having at an earlier time been employed on buildings for the Corporation in another place called Working Street.

In 1900 the Corporation decided to abandon the project of a museum in Park Place, and to have the contemplated museum on a site in Cathays Park. The curator of the museum, Mr. Ward, and the honorary curators proceeded to work upon tentative plans embodying a general scheme for a museum, and in December 1900 Mr. Ward submitted a report, with a general plan of a museum, for consideration of the Museum Committee, which had charge of the museum project on behalf of the Council of the Borough.

For the purposes of the work done by the plaintiff for the projected building in Park Place, the plaintiff had not had any contract under seal with the Corporation; also before the formal contract under seal to which I have referred was made, the plaintiff did a considerable amount of work in the preparation of plans to carry out Mr. Ward's general designs.

After a prolonged negotiation the Museum Committee and Building Committee agreed upon the plans prepared by the plaintiff, subject to the cost not exceeding £25,000. The Council at its next meeting did not adopt the proceedings of the Building Committee, and never did, in fact, thereafter adopt the Building Committee's resolutions; but the Museum Committee resolved to postpone the whole matter relating to the proposed municipal museum, and communicated the resolution to the plaintiff, and finally the plaintiff was informed that the proposed new municipal museum was abandoned, and was requested to render his account for his professional charges. The plaintiff rendered his account from the year 1895 down to the year 1905, claiming £2,477.

The reason the scheme for the municipal museum was abandoned, was the proposal to establish a National Museum on the site, and a National Council for the purposes of the museum was established, and an Act of Parliament was passed, authorising the Corporation to transfer to the Council of the National Museum of Wales all its rights and interests in the Cardiff Museum, and its financial assets; but the Act provided that the Corporation should continue to be subject to all obligations and liabilities to which before the transfer it was subject in relation to the museum. The plans prepared by the plaintiff were submitted to the National Council, with a strong recommendation that he should be employed as the architect for the National Museum, and the plaintiff was apparently prepared, if he had been so appointed, to abandon his claim against the Corporation for remuneration and compensation. But the plaintiff was not appointed architect to the National Council, and on 9th July 1909 he sent in a claim against the Corporation for £2,990 for remuneration, together with a claim of £4,000 for damages. The defendants offered £1,100 in satisfaction, which the plaintiff declined, and in October 1909 this action commenced. The defendants had paid into Court the sum of £1,100, which had been tendered to the plaintiff, and have paid into Court a further sum of £400, wholly denying any liability; thus the total sum paid into Court is £1,500.

Applications of Law.

It is plain, having regard to the law which regulates contracts by a municipal corporation with an architect or surveyor, that the Corporation were under no liability to pay the plaintiff for the work that he did in connection with the plans which he prepared for the Park Place site, inasmuch as there was no contract under seal, notwithstanding that they had the benefit of the work.

The next question to determine is whether there is a breach of the contract. The Corporation purported to determine the employment of the plaintiff by virtue of the power conferred by Clause 10 of the contract, and the Corporation maintained that there was no breach of the contract. I decide the contrary.

It is, I think, to be inferred from the judgment of Lord Bramwell in Hunt *v.* Wimbledon Local Board (4 C.P.D.) that if a municipal Corporation, having made a valid contract under seal to employ a person as architect for certain buildings, say to him, "We will not go on with the buildings or employ you any more," the Corporation commits a breach of contract, for which an action for damages can be maintained. That is what the Cardiff Corporation did in the present case. The Building Committee having approved plans which had been made, and appointed a sub-committee to confer as to specifications and contracts, the Corporation first postponed the matter, and finally abandoned it, and transferred the assets of the undertaking to another body. Clause 10 of the contract does not apply to what the Corporation did. It clearly applies, in my view, to an event which never took place—viz. the commencement of works under building contracts pursuant to plans completed and approved, and a power in the Corporation to stop those works. It follows from this decision that, in the first place, the defendant Corporation was not entitled to discharge the plaintiff from his employment in the way in which he was discharged, and consequently that the way of assessing the plaintiff's remuneration for the work already done, for which Clause 10 provided, does not apply.

There having been a contract made and a breach of it, the next question is what compensation the plaintiff is entitled to. I have had a certain amount of evidence on both sides as to what in the events which have happened would have been the remuneration payable to the plaintiff under the scale of remuneration adopted by the Royal Institute of British Architects, so far as that scale applies.

Scale of the Royal Institute of Architects.

Judges in directing juries have repeatedly declined to be bound to award remuneration or compensation on the basis of this scale unless that rate of remuneration has been expressly assented to, or it has been established that the owner has known that in employing the architect he would be charged in accordance with the scale. The plaintiff alleges that the museum building which he was employed to design and carry out was to be a building to cost about £150,000, on which sum he would have received 5 per cent., and also his fee for preparing bills of quantities.

I find it clear that the Corporation never employed the plaintiff to prepare plans for museum buildings to cost £150,000 or anything exceeding £25,000. The Corporation's available resources limited them to that expenditure. I am bound further, in considering the compensation to which the plaintiff is entitled, to have regard to the circumstance that if the Corporation had proceeded either with the plans approved by the Building Committee or more extended plans, and had had contracts prepared and works commenced, they could have stopped the whole or any part of the work under Clause 10, in which event the plaintiff's right to remuneration at 5 per cent. would have gone, and he would have received remuneration at the reduced scale mentioned in that clause.

Evidence has been given before me that in assessing remuneration for what the plaintiff has actually done for the Corporation I ought to treat the plaintiff as having been employed practically to design three different schemes and award remuneration in respect of each of them on

the ground that the alterations from time to time directed involved practically the making of three schemes. This evidence has been met by evidence on behalf of the Corporation that there was but one scheme—that of Mr. Ward—and what the plaintiff did was to prepare the architectural developments of that part of Mr. Ward's scheme on which the Corporation decided to embark, with the consequence that the plaintiff ought to be paid a percentage on the cost of that part of the scheme.

Of course, an architect must have a proper compensation for his time, and if there were involved a large degree of architectural knowledge properly so-called it must be paid for according to the merits of the individual. But the genus architect was not necessarily entitled to 5 per cent. nor to 2½ per cent., and this Court has already had reason to know that architects were sometimes very formidable persons. As far as remuneration by percentages goes, the view I adopt is that it does not in the circumstances apply either in favour of the plaintiff or the defendants.

Dealing next with the prospective remuneration to which the plaintiff might have been entitled, I cannot award him compensation on anything like the scale which he claimed in this action. On the other hand, it is my duty to have regard to the fact that the plaintiff was undoubtedly employed to do a large amount of work under the contract exceeding the amount of work which he would have had to do if employed to design a simple building to cost £25,000, and that £750, together with the £100 for block plans, is too small a remuneration. I must also have regard to the usual scale upon which an architect of the plaintiff's professional eminence is remunerated, and I come to the conclusion on the whole that the sum paid into Court—viz. £1,500—is an adequate and proper remuneration and compensation to the plaintiff in the circumstances of the case.

As I have awarded to the plaintiff a sum in excess of the amount tendered, and as the defendants deny all liability, I give judgment for the defendant Corporation in the action, with the general costs of the action, but I award the plaintiff the costs of the issue as to liability, and I will put the judgment into proper technical words to give effect to this decision.

MINUTES. VII.

At the Seventh General Meeting (Ordinary) of the Session 1910-11, held Monday, 30th January 1911, at 8 P.M.—Mr. Leonard Stokes, *President*, in the Chair; entered in the attendance-book the names of 27 Fellows (including 14 members of the Council), 41 Associates (including 2 members of the Council), 3 Hon. Associates, 11 Licentiates, and numerous visitors—the Minutes of the Meeting held 16th January 1911, having been published in the JOURNAL, were taken as read and signed as correct.

The Hon. Secretary announced the decease of Andrew Murray, *Associate* 1872, *Fellow* 1899; Alexander Cunningham Forrester, *Fellow*, elected 1904; Edward Skinner, of Ceylon, *Associate* 1893, *Fellow* 1909.

The following Members and Licentiates attending for the first time since their election were formally admitted by the President—viz. Edgar Hinton Fawckner, *Fellow*; Willie Josiah Freeman, Andrew Graham Henderson, Frank Woods, Frank Coults Webster, Noël Waugh Hadwen, *Associates*; Charles Reuben Bayley, Edward Hall, George J. J. Lacy, Albert J. Thomas, Frank Windsor, Joseph G. Wiles, *Licentiates*.

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, were nominated for election—As FELLOWS (4): Henry Ebenezer Budden [*A.* 1895], Alfred Edward Corbett [*A.* 1897], Augustus Edward Hughes [*A.* 1902], Reginald Guy Kirkby [*A.* 1902]; as ASSOCIATES (2): Benjamin Charles Ernest Bayley [*Special Examination*], James Henry Gray [*S.* 1907, *Qualified* 1910]; as HON. ASSOCIATE: Sir Richard Arthur Surtees Paget, Bart.

The President announced that the Council proposed to submit to His Majesty the King the name of Dr. William Dorpfield, of Athens [*Hon. Corr. M.*], as a fit recipient of the Royal Gold Medal for 1911, in recognition of his distinguished services to Architecture.

The President announced that the author of the drawings submitted for the Soane Medallion under the motto "Civitas" having failed to comply with the conditions of the Competition and withdrawn his designs, the Council had decided not to award the Soane Medallion this year. The President further announced that the Council had decided to award the Godwin Bursary and, subject to the specified conditions, the sum of £65 to Mr. Cecil Brewer.

The President delivered an ADDRESS TO STUDENTS, and Professor C. H. Reilly, M.A.Cantab. [*A.*], read a CRITICISM OF THE DESIGNS AND DRAWINGS submitted for the Prizes and Studentships for the current year.

Sir Aston Webb, C.B., R.A. [*F.*], moved a vote of thanks to the President and Professor Reilly for their Addresses, and unveiled and formally presented to the Institute on behalf of the subscribers the portrait of Mr. Ernest George, A.R.A., *Past President*, painted by Sir Hubert von Herkomer, R.A.

The vote of thanks having been seconded by Mr. Selwyn Image, Slade Professor of Fine Art at the University of Oxford, was carried by acclamation and briefly responded to.

The Presentation of Prizes was made by the President in accordance with the Deed of Award, and the Travelling Students were introduced, as follows:—

INSTITUTE SILVER MEDAL.
The Medal and cheque for £26. 5*s.* to Mr. H. L. Honeyman.

INSTITUTE MEASURED DRAWINGS MEDAL.
The Medal and cheque for £10. 10*s.* to Mr. T. F. W. Grant.

SOANE MEDALLION AND £100.
Certificate of Hon. Mention and cheque for £10. 10*s.* to Mr. C. P. Walgate.
Certificate of Hon. Mention and cheque for £10. 10*s.* to Mr. A. D. Robinson (not present).

OWEN JONES STUDENTSHIP.
Certificate to Mr. A. W. Bellis, as the winner of the Studentship.

PUGIN STUDENTSHIP.
Mr. J. B. F. Cowper introduced as the winner of the Studentship.
Cheque for £5. 5*s.* to Mr. P. D. Hepworth.
Certificate of Hon. Mention to Mr. N. W. Hadwen.

TITE PRIZE.
Mr. G. H. Foggitt introduced as the winner of the Prize.
Certificate of Hon. Mention and cheque for £10. 10*s.* to Mr. Henry Boddington, jun. (represented by Mr. Carus-Wilson).
Certificate of Hon. Mention to Mr. W. G. Newton.
Certificate of Hon. Mention to Mr. Y. O. Rees.

ARTHUR CATES PRIZE.
Cheque for £42 to Mr. A. G. Henderson.

ASHPITEL PRIZE.
Books value £10 to Mr. J. B. F. Cowper.

PUGIN STUDENTSHIP 1910.
Medal and cheque for £20 to Mr. H. H. Fraser.

The proceedings terminated at 10 P.M.

THE ARTISTIC DEVELOPMENT OF LONDON.

By E. A. Rickards [*F.*] and Paul Waterhouse [*F.*].

Read before the Royal Institute of British Architects, Monday, 13th February 1911.

I. By E. A. RICKARDS.

AFTER all that has been said during the last year under the inspiration of the movement which culminated in the Town Planning Conference, it is difficult to find any original thoughts on the subject. That is, in the abstract; for one could take portions of London and deal with the possibilities of their æsthetic development, graphically and theoretically, but any one of these would require more time than I could possibly ask you to give me to-night. Therefore I propose to confine myself to a few disjointed observations which might come under the heading of artistic development as applied to the externals in the central and best known portion of our city.

We have seen that if London is at any time to affect the large manner of the Continental and American city, she has little as a basis to work upon; certainly no centre of interest such as the buildings and gardens of the Louvre and the avenue leading from them. When one thinks of the development of a city one thinks naturally of some such central motive—the occasion offered in the historic case of Wren and his scheme in connection with St. Paul's. Such chances have consistently been lost sight of or ignored from then onwards, and in our own time the opportunity presented at South Kensington with the Albert Hall as a beginning stands out as an example.

With all its deficiencies this neighbourhood occurs to the mind as one of the spots on the map of London, and one can only think of what its possibilities were if one can imagine it having been under the control of, say, the Paris Municipality of the period. I shall revert to the influences of the artists responsible for the two buildings first erected on this ground and the noble suggestion given out by them which was so soon obscured. In a general review of this past opportunity the Albert Hall stands out as the focal point and seems to have been very rightly placed.

Had any real symphonic treatment of the neighbourhood taken place around this, in which the theme given out by this building could have had its due development, we should have had some such central motive for this portion of the city on a scale that would have brought it into touch with other centres that now seem remote. It is curious how closely related comparatively distant landmarks seem when we have their surroundings in harmony. The waves of their respective influences link them in idea. Compare, for example, the apparently close relationship of portions of Paris with what seems undue separation between others in London.

Of course I could go on indefinitely reciting a list of London's lost opportunities, but this will suffice as an illustration of those on a larger scale. There is abundant evidence that we have never cared for development in the literal sense of the word. The jealous way in which the very large amount of open space in London has been guarded is a large part of the proof. That these spaces should be put in some sort of order, and even be rendered available for traffic or other forms of recreation than seclusion and lung-filling, does not necessarily entail any loss of area or any incroachment in a tangible way on such preserves.

This is a superstition which will have to be mastered if we are ever to create any considerable spheres of influence and character in our new city, any effect of space through which a motive may be repeated and developed in all its possibilities of form and suggested harmonies. We hear enough of how iniquitous it is that private ownership should stand in the way of the small street improvement, but how much more so it is when a small corner of some Crown lands or public space stands in the way of the general good. We are surely illogical people in these matters, or else most dangerously sentimental. We allow no hands to be laid on the enclosed squares which could be so exploited in certain neighbourhoods such as Bloomsbury and Kensington, yet the whole artistic character and general design of the surrounding buildings is set back and in many cases eternally ruined by the substitution of raw terra-cotta and exotic material in the worst design. Even in the neighbourhoods of the most marked character and charm which bear the stamp of a real and definite period, such as portions of Mayfair, the exotic design of the Flemish gable and other vagaries of accomplished but misguided artists in our profession are evidence of a total lack of evolution from a very beautiful motive left us by the eighteenth century. The work of so many accomplished American designs openly derived from the suggestions of this period testify to the possibilities we have let slip in developing these districts of London in a manner entirely harmonious with the character so definitely imprinted on them, and yet imparting a very modern feeling in the result. I believe the Bloomsbury streets and squares are quite a field of study for the Americans, and many a beautiful piece of treillage ironwork and refined piece of design has its influence in the modern city architecture of America.

Then, again, we lay down restrictions in the material to be used in certain new streets: no other material than stone to be used for the elevation of business premises for example, while some of our largest public buildings are being erected with such a material as red brick largely introduced and cutting up the façades. This is surely reversing what might be the real order of things. In new avenues that have been laid out in which it has been possible to allow of a certain direction if not an absolute vista, gable fronts are permitted which break all continuity of design and any feeling of coherence which decided horizontality in the character of the buildings would have ensured.

As an example from which much might be developed and acted upon in the treatment of many of our avenues, let us take Pall Mall, perhaps the most beautiful street in London, by reason not of its uniformity, but of its harmony of design and the subordinate interest of its individual buildings. Double the scale of operations and you have Oxford Street with its emporiums in place of clubs, capable of just as solid and artistic an expression of their purpose. We have some evidence already of this, with the strongly marked horizontal lines of the several new blocks lately erected and the happy abstention from the angle entrance. I would go farther in my development of the theme given out in Pall Mall, and take the motive of the succession of lamps and braziers which line the areas to the clubs. These are all very evident on an evening of celebration such as the festival of the King's Birthday and line the vista of the street in the most beautiful way. Imagine the avenues of mammoth stores with handsome standards of regular height, but in character corresponding with the building opposite which they are placed. Lombard Street, with its signs and again strongly

marked horizontal features, though of very different proportions, is another example. London has many other motives that might be developed, and even the three or four generations immediately behind us have not been without ideas of general forms and balance that are not strained in effect. Witness Regent Street and its continuations and the beautiful relation to the scale of life about it. Our own times have been responsible for breaking the continuity of design in many districts, and before being in a hurry to graft exotic treatment of obviously foreign design upon them it would be well for us to consider whether there were possible developments of the traditions and character in many places still so strongly in evidence. Of course in the case of shop-fronts and subordinate features the interest is localised, and the greater the variety in contained spaces the more artistic and interesting a street may become. The exotic element in a cosmopolitan centre such as the Rue de la Paix in Paris is an example of what I mean, and occupiers of the shop-fronts of Regent Street had this very fine precedent when their individuality was first threatened. In London, with its narrow streets, it must be recognised that the commercial plane or the bazaar is on the street level and not a few stories above. The eighteenth century in London recognised this, and we in our own age of ugly advertisement have cut across this tradition and invented the display of the façade above.

I should like to feel that there was any possibility of the designs of our new streets developing along the lines of a more comprehensive simplicity, with the tradesman's appeal confined more to the level of the public rather than displayed to the elements above.

It is idle to suggest the effect of monotony with the ever-changing direction of our picturesque roadways and the broken vistas with which they abound. To myself it is evident that some simplification of the units of street design is essential if the formal ideas lately so much the mode are to be embodied and materialised amongst us.

Apart from the practical advantages of direct communication and other attributes of light and air, &c., I do not see the artistic gain in such London developments as, for instance, Kingsway and its approaches, if the so-called improvement be carried no farther than it exists as it were on paper and is confined to one dimension. It may be argued that the general lines are laid down for posterity, to be decorated by works of art of a more enlightened age. That is certainly characteristic of our usual method of half measures and the British way of missing the spirit of an imported idea in its entirety.

Many formal schemes which have been advanced during the last years or months for the development of London have pretty well proved, on investigation and in some cases in execution, that a larger field is necessary for their success. To force arbitrarily into an absolutely symmetrical and formal pattern any small portion of our city, is very often to reduce the scale in relation to surrounding property and to repeat the effect of the patched garment.

The scale of London which has taken so many centuries to evolve will always be with us, and if we can possibly give an effect of order in the many improvements of our time we shall be developing in a much freer manner than by these Continental schemes in miniature. A feeling of order, I repeat, is the most we can hope to attain to, and this combined with interesting detail would eventually result in a beauty which would be London's own. Our spaces outside those sacred and proscribed areas of parks and privately owned enclosures are small enough in effect at present, but by the affectation which we have seen suggested in so many recent professional and amateur proposals, they would only amount to so many breaks in rhythm of our streets as produced by the accident of business and residential fashion.

They would be tight and cramped and forced in effect, and all fluency, which is such a complement of real grandeur, would be missing. Just as our climate has a softening effect on the forms and the materials of our buildings, so in like manner it atones for so much of the irregularity of our town systems, and I am convinced that a development of possibilities

as far as London is concerned sufficient to result in a sense of order rather than symmetry, is the real keynote of our progress.

This is all I can say in this short Paper regarding the question of London's artistic development; but turning to details there is a wealth of possible suggestions. I have already during the past twelve months read two Papers on the subject of monuments and street decoration, and I would not weary you by any repetition; but I would like again to draw attention to the fact, and to protest that so much work which is certainly within the province of the architectural artist should be so consistently placed in other hands. This is another superstition which we have to break down, and the result will be that a real comprehension of the use of architectural forms will result in an absence of their travesty from so much of our street furniture.

The simple backgrounds I have endeavoured to suggest would allow of much more freedom in the sculpture and other accessories. Some of the money expended so uselessly above the range of vision could be used to a better account within it.

In the larger issues under discussion during this week, the deductions obtained, based to a large extent on successful example, point to the fact that intelligent control, a jurisdiction that the smallest detail cannot evade, must be exercised over all these decorations and amenities of our town system; and this, so far, has never existed in any municipality in England. To render such control effective altogether, I must in my idea assume that questions of street arrangement, traffic systems, park and public space allotment, alignment and balance of buildings, and all the larger details of civic design are satisfactorily settled by you, and the various portions of the city ready to receive and contain the separate works which the decorative artist is straining to be loosed upon; and to be embellished by all that will serve to link the buildings, large and small, not only with themselves and the general scheme, but with the life in their midst.

Give this ideal field of operation all the solid foundations of a town scheme, with every possibility of artistic embellishment provided for: who is to be entrusted with the design and control of all these accessories to the dominating and enclosing general masses?

Naturally one would think those fitted by training and natural ability to do so; and it should be the duty of those in authority to seek out such special ability, and rise superior to the hitherto prevailing superstition (which I am bound to say has been largely fostered by the generality of artists, as distinct from the architectural profession) that such details of ornamentation are outside the province of the architectural artist. We have seen how, in the training of the French architect, a complete study of all those details is included, and in the highly imaginative reconstructions of, for instance, Prix de Rome students, how large a part is taken up by the life and general attributes of the period in question, in addition to the restoration of the chief monuments and buildings themselves. Admitting that the artistic education of the English architect is far behind that of his French neighbour, the parallel is worth drawing, for his qualifications for assisting in the general furnishing of the streets are surely greater than those where training has been almost entirely confined to the studio and what can be executed by themselves in such a space.

But the whole matter is one of reciprocity between the various bodies which from time to time are looked to as guides and directors in any of the changes in our surroundings. We have not lacked instances recently in the many enterprises that have come under public discussion.

It cannot be said we have failed in respect to the sister arts and their representative institutions, or to the engineering world. We have sought their assistance and co-operation on most possible occasions, but the time has now come when the comprehensive nature of our own art must be acknowledged if we are to progress and develop the latest accomplishments

which our improved education and widened outlook have given us. Any bolstering-up of amateur and unintelligent proposals, or any disloyal and capricious siding with such ignorance in the face of scholarship and good taste, should be collectively denounced by us. If we have right then we have might; but that truth has not yet dawned upon us. Therefore I suggest that one example of fearlessness in asserting our knowledge would result in accelerating future development more than all the discussion which takes place among ourselves. I presume I am forbidden to mention specific instances, but I am ready if called upon to name them. They are probably in your minds as they are immediately under notice. Any action from this Institute in those cases would have been a proof that it is from ourselves that the real suggestion and control must come and not from the uninformed.

The real problem before us is not to discuss principles. It is to find and employ the means to apply them.

II. THE MEANS TO THE END. By PAUL WATERHOUSE.

THE subject on which you have been good enough to ask me to address you is the artistic development of London. There are many aspects of the subject. The one which I have chosen is perhaps the dullest, but it is certainly not the least important. If the theme is dull, at least the speaker will not be prolix. I will say what I have to say in the shortest possible compass. Perhaps I may bring things before you which I should have hardly dared to write had I realised in what distinguished company they would be spoken I can only ask you to forgive my temerity.

By "artistic development" I understand in the main the architectural development. In other words, I put to you and to myself this question, How, if London has to be developed, shall we Londoners manage to conduct this development on true architectural lines; how shall we get the best artistic result? Now, there is one very interesting way in which every architectural artist in this room or outside it can answer this question. He can give his own view as an artistic creator on the subject. He can say, "You leave this matter to me and I will see it through. Give me London as it is, give me full powers and a reasonable honorarium, and I will both make the necessary plans for the development and improvement of the metropolis, and will also control the architectural composition of that development. Or, if I am to be denied the actuality; if the appointment, the unlimited powers, and the reasonable honorarium are to remain a mere phantom, I will set before you hypothetically in a lecture the things which I would do if I had my way."

Such an answer is a very proper one, and the result in the form of many lectures, papers, and schemes, has already proved interesting. To-night we have received an individual contribution—an offering of æsthetic opinion from my colleague Mr. Rickards. I myself have at your invitation here, and at the invitation of a kindred society, twice embarked on modest voyages of invention in this attractive sea. But to-night I withstand the temptation of another such voyage; I want to attempt an answer to the question implied in your subject-title on different lines. I mean in fact not to lay any æsthetic project before you, but merely to inquire by what means any such projects as may be forthcoming are ever to be brought to fruition in fact. My theme will essentially be a barefaced suggestion that there are certain duties to be done which can only be done by architects, and that in consequence architects should be employed for the purpose of doing them. I offer no kind of apology for this. "Architects," said Mr. John Burns, "should come down from their perches"—their "pedestals" was, I think, the actual word—"and offer themselves for the needful work."

We are a decently modest race, and modesty debars; but there is no sort of reason why modesty should draw us into a tacit denial of the obvious fact that we architects as a body exist for the performance of our functions.

Cities beautiful owe their beauty to their streets and their houses. The streets may be beautiful by accident and irregularity or by deliberate street design. The houses of these streets may be beautiful individually or collectively. Our London contains—I hope always will contain—beauty of all these four kinds: two classes of streets and two of houses. But it is clear that some artistic sense should ever be watchfully controlling these four elements of beauty. Let me express them more fully for a moment.

No old street that owes its beauty to collective symmetry or to regularity of grouping should have that symmetry or regularity disturbed by the lack of some authoritative voice of control. Similarly no street whose charm is the random accumulation of irregular façades in irregular lines should have the charm of those elements violated by the intrusion of incongruous units, nor even by a thoughtless introduction of undue regularity. But conversely there are places in which obviously the removal of chaos in favour of symmetry would be of great artistic value—places where a wise control of a group of buildings would make for greater beauty than could result from a series of contiguous individualities. And this brings us to the question of individual house design, the system under which most of our London architecture is produced. Can we truly say that throughout the important streets of central London there is at present any power at work which makes impossible the erection of buildings by incompetent designers? Is it not clear that there are many sites of great artistic importance which from time to time become occupied by buildings which would never have got carried into execution if there had been even a mild censorship exercised over the whims or the weakness of the designer?

Gentlemen, there are three propositions which I have to put before you, which propositions you will agree are self-evident axioms.

The first is that the preservation of London's past and the guidance of London's future are an artistic trust of the greatest importance. So important is that trust that those on whom it is imposed should in their own interests take reasonable professional advice as to its fulfilment.

The second is that, as it is not merely an archæological trust but an artistic one, the necessary guidance of the action of the trustees should be sought not from committees or societies, but from individuals. Art is produced by individual artists, not by corporations.

And my third proposition is that the proper advisers are architects.

Now, the present age in England is exceptionally strong in the numbers and quality of architects. There can be no doubt about this. Any architect who has had experience, as assessor in open competitions, of the wealth, the profusion of design which comes pouring in from all parts of the kingdom can testify to this. So can anyone who has looked through the really splendid and truly academic work submitted for our Institute prizes and sent in among the Testimonies required for our examinations. The best level is a really high one, and the numbers are great. There are, of course, weak men, ignorant men, and uneducated men among our ranks, but no thoughtful and observant student of modern English architecture can possibly deny that in numbers and merit the British architectural world of to-day is strong. However gloomy a view one takes of the general competence of mankind, at least a third of the 1011 architects in the London Directory may be assumed to be men of ability; and even if you reject half of this third as being specialists in other than civic design, even if you go to the length of refining your selected remainder by dividing it by ten, you would still have 16 or 17 architects available. But this is trifling. There is undoubtedly an abundance of architects.

Against that wealth we have to set the indisputable fact that as far as London is concerned great enterprises of vast importance are sometimes undertaken without any architectural advice

whatever, that architectural advice when offered by the Institute in a corporate way and in a friendly spirit is often though not always ungraciously declined, and finally that much as individual owners may do on individual sites to secure good architectural effect in isolated instances by the engagement of first-rate architects, there is a conspicuous lack of general architectural control over these larger issues which are really of major importance. Those who would be aghast at the idea of a twenty-thousand-pound building being erected without architectural advice have no anxiety at all at the prospect of a street, a bridge, a parish, a borough, or of London itself being left without any but the most accidental and spasmodic artistic direction.

There is no good reason for this state of things and no excuse.

Construction as ruled by the Building Acts is admirably censored and controlled by our excellent system of district surveyors. Sanitation is also rigorously and vigorously regulated by the surveyors of the various borough councils. But the *art* of London building passes almost free of public control and stimulus. Why should this be?

I say "almost," and I wish to acknowledge to the full the honourable exceptions.

Some of the great landowners of the metropolis have for many years exercised some control over the designs of buildings to be erected on their estates. That this control has always been efficient in its results is perhaps more than we could expect; but there can be little doubt that it has from time to time choked unworthy designs at the birth, and it has certainly here and there led to the setting aside of individual eccentricities where uniformity was desirable or where some corporate and combined effect was of more importance than the considerations of a particular site. Occasionally also it has led even in the heart of London to the courageous laying out of a new street, or at least to a bold measure of transformation.

But even where this censorship has been vested in the critical powers of an acknowledged architect I doubt whether we have ever got from it the artistic force which is available.

You will realise that my problem is not whether more artistic control is required, for that is a certainty; nor whether architectural talent is available for such control, for that also is a certainty; nor is my question what would Mr. A. or Mr. B. or Sir X. Y. Z., the leaders of our craft, make of the London problem if they were in charge of it, for that is a mere hypothesis.

No; my problem is this: How are Messrs. A., B., and Sir X. Y. Z. to be brought within striking range of the work which so obviously lies waiting for them? That is my point in all its naked horror. But is it really naked, and if so is it really horrid? The only indelicacy about it is that it should have to be said by an architect among architects. I could wish that for this evening we could all become dentists or coal merchants. Then, stripped of all suspicion of bias, the words which I utter to-night could not possibly fail of their appeal to reason. But can we for a moment let the suspicion of bias or the fear of a charge of professional self-seeking blind our eyes or the eyes of an enlightened public to the very obvious logic of the facts which lie so plainly before us? Here let me gladly acknowledge that in some of my recommendations will be recognised an echo of things said several years ago by Sir Aston Webb.

The London problem lacks efficient artistic advice, efficient artistic control. London, which wisely and cheerfully spends many thousands a year on its regulation of good building and good sanitation, cannot possibly grudge the comparatively trifling expense of good architectural direction. And if there were any body of artists other than architects to whom the duty could possibly pertain we should, I am sure, frankly say so. There is, there can be, no possible doubt but that what is needed is the employment by London for London of the very highest architectural advice in those problems of collective architecture which are, if people would only believe it, greater, not less, than the task of designing individual buildings for individual sites.

And now comes the crucial question. By what machinery can such a result be brought about?

Would it be practicable to appoint an architect who should have supreme advisory control over all street architecture, all street-planning schemes, and all questions of the guardianship of existing architectural monuments? Yes and no. That there should be a man who is architecturally supreme is, I believe, not a wild dream, but a practicable and very desirable solution of our difficulty. But no one man could do all the work that needs to be done, and no committee of men can, as we have agreed before, effect work which can be styled work of art. How then are we to get individual artistic genius applied to the whole of this great acreage of buildings. My suggestion is that it should be made compulsory on each of the boroughs whose territory comprises the heart of London to appoint a borough architect. The functions of that architect would in no wise overlap either those of the district surveyors who have their appointed spheres under the London County Council, or those of the surveyors already holding office under the boroughs. Both of these classes of men have their hands full, and do their work uncommonly well. My borough architect would have as his primary and simplest work the passing or rejection on purely æsthetic grounds of the designs of intended new buildings. His critical censorship would extend to the admissibility of altering valuable old buildings, and he would sometimes no doubt have to exercise a veto against the destruction of work of historic or artistic value. With him again would lie the duty of advising his borough, probably in consultation with a central authority, on the formation of new streets or new frontages; it would be for him to decide whether in certain places individualistic architecture should give place to the grouping of houses in larger composition, and he would be looked to as the guardian of art in those public works which boroughs so often carry out without any architectural advice whatever.

In cases where, as in the formation of squares or the approach to a bridge, collective architecture seems desirable he would very probably be himself responsible for the elevations, but I would propose that he should be at full liberty to initiate a competition for such work or to advise the engagement of another architect. The borough architect, who must essentially be a man of accepted and conspicuous standing, should be paid a fixed yearly income for his services. He would not be debarred from general practice, but should be prohibited from private engagements in his district, in which he would only perform his critical and advisory functions and such works of general design as he thinks well to keep in his own hands, and for which no payment outside the yearly salary would be made.

I have mentioned this money question not because it is of primary importance, but simply to make clear the position which, in my opinion, the borough architect should occupy in relation to his employer on the one hand and his brother architects on the other.

My reason for proposing that the borough architect should not be debarred from general practice outside his borough is threefold. In the first place, it is of supreme importance that the men selected for these posts should be the very best that England can produce. I would have the posts coveted among architects not as berths but as honours. If you make the holding of them conditional upon the abandonment of other outside work, you will deter the best candidates, the men who love their art for its variety of scope, the men whom no allurement of pay would entice from the free range of unfettered opportunity.

A second and connected argument is, that if the salary were made commensurate with the abandonment of the full practice of a first-rate architect, you would either attract inferior men and mere place-hunters: or if you succeeded in bribing the best by a lure of gold, you would perhaps rob them of some of their vitality: for architecture is a sword which is kept bright and sharp by use. Moreover, you would be placing an unnecessary financial burden on the boroughs.

In saying this I am not ignoring the fact that the man with the largest practice is by no means necessarily the best architect: still less do I overlook the consideration that you may

easily find an artist of first-rate critical ability who has never achieved the acquisition of a large *clientèle*.

My third reason against making the engagement an exclusive one is perhaps the most important of all. I wish to suggest that these engagements should not be permanent. It is before all things desirable that the duties of these posts should be fulfilled with extreme vitality. Architects, like other animals, grow old, and in some cases their critical and initiative vitality decreases with age. Again, in choosing an architect, as in buying a horse, it is possible to make a mistake. It is, therefore, of the greatest importance to the boroughs that they should not be saddled with inefficient administrators. For this reason I propose that the initial appointment should be for three years only, renewable at the option of the borough for other successive periods of a like span. Such a system of tenure would make the acceptance of the posts impossible to architects in good practice unless they were allowed perfect freedom for the exercise of their private practice in conjunction with the borough work.

Next comes the grave question of the method of appointment. Without doubt the nominations should come in the first instance from the Council of this Institute. Special conditions would no doubt apply to the nomination of the original appointments, but if once the scheme were in full working order the most natural procedure would be for each borough, when its vacancy occurs, to make application to the Council of the R.I.B.A. for the nomination of not less than two men, from whom the borough would then make their own selection. The initial nominations would in like manner be made by the Royal Institute, but as there would be some seven or eight appointments to be made simultaneously, a larger nomination, say of ten names, would be necessary.

The Act of Parliament enforcing the scheme would no doubt make it obligatory upon certain boroughs—*e.g.* the City of Westminster, the Royal Borough of Kensington, and the Boroughs of Holborn, St. Marylebone, St. Pancras, Paddington, Lambeth, and Southwark—to appoint architects forthwith; the remaining boroughs should in my opinion be given the option of making appointments, but I have very little doubt that in the course of a very few years or perhaps months a friendly rivalry in the matter of architectural prestige would lead to the rapid adoption of the system throughout the metropolis.

And what of the City? Good Londoners are taught to believe that my Lord Mayor carries a sword which the very King cannot withstand unless it be civilly handed to him at the spot where the Griffin plays substitute for Temple Bar; but it is not too much to hope that the heart of London which guards so many interests would also be brought into line with an attempt to protect what is after all one of London's greatest assets—her architectural beauty, past, present, and future.

Possibly it is necessary that Crown lands should be exempt; the exemption will be the more readily tolerated when we reflect that at times it has seemed as if the Commissioners of Woods and Forests were the only owners exercising any real æsthetic censorship over the architecture on their estates. I would not go the length of saying that that control has been administered without drawbacks, but at least it has been a valuable object-lesson in the practical possibility of such control.

And now having provided for a departmental distribution of architectural control we come to the final question. Is there to be some architectural monarch controlling this commonwealth of artists in the interest of co-ordinate action—if so, what are to be his powers, and what his title to office?

I take the view that just as the borough architects can control their districts without any undue interference with the legitimate artistic output of the architects whose designs will come under their scrutiny and protection, so also there is room for, and need for, an architectural head

Let us take his method of appointment first and his functions afterward. His electors should, I think, be the whole body of already appointed borough architects; they should have liberty to select him either from their own number or from outside, but if from outside they should, as in the case of the boroughs, seek a nomination of two candidates from the Royal Institute of British Architects. I am aware that a difficulty would here arise. The chief architect would, I think, of necessity be the adviser of the London County Council, and would, therefore, hold his engagement from them. The Council would accordingly very properly object to delegating their own powers of appointment to any outside body. Probably, therefore, the selective power of the Board of Borough Architects would be merely advisory; but it is obviously essential that whatever powers of appointment the County Council retain, the field of choice should be restricted to the limited number of men from whom it would be proper to select so important an officer, and it is right that architects themselves should be the judges of that limitation.

You have borne with my fancies very considerately so far; but I fear that the moment has come when some of my audience are murmuring that it is at least rather ridiculous for a private individual to produce a detailed scheme so subversive of the accepted system of London's constitution. My answer is that something subversive has got to be accomplished, and that my proposal is at least framed on reasonable lines. That London will undergo some important changes in its street structure, and that within a few years, is perfectly certain (the certainty is emphasised by the recently published report of the Traffic Branch of the Board of Trade); that these structural changes, whether effected under the Town Planning Act or not, should be undertaken without architectural guidance would be an artistic disaster of the first quality, but it is a very probable disaster if no effective artistic machinery is devised to meet the coming need. And after all the Boroughs and the County Council are very much younger institutions than London itself. Some may say, "Let things go on as they are. Plenty of good schemes are from time to time being put forward by individuals in an amateur spirit; these will have their effect, and in due course one or other of the improvements suggested by these self-constituted advisers of the town will be adopted, possibly modified, but eventually carried out. Architects need not press their services, we may trust to the good sense of our elected rulers to engage as occasion requires some architect of standing to advise on the more important issues as they occur."

Gentlemen, if you could assure me that an architect had been appointed to advise on the carrying-out of the propositions of the Traffic Commission, recently revived in the Board of Trade Blue-book; if you could bring me intelligence that arrangements had been made by which in future all questions of bridge construction and bridge destruction should be settled under architectural advice; if, again, you could set my mind at rest on the subject of South London by a certitude that some eminent architect was professionally occupied in the problem of the desirable connection between Westminster Bridge and the City; if, finally, you could promise that the new Mall improvements were not necessarily to lack architectural advice on the subject of the Spring Gardens bathos, I should then be satisfied, partially satisfied, that our rulers were dealing sanely with their trust. But even so I should want some evidence that there was co-ordinate action between these four advisers, and I should like to be certain that there was a master-mind at work. "A master-mind"—that brings me back to my architect-in-chief. I must dismiss his functions briefly, for the time is running out. I think I must first explain that in suggesting the creation of this post I intend no disrespect to the present office of Architect to the London County Council, still less to the gentleman (a personal friend of many of us here) who now occupies that office. The duties I am suggesting are other and wider than those associated with the present post, and should be entirely severed alike from those functions of Building Act control and of the design of

Council buildings which so fully occupy the time of the Council's architect. Nor can I proceed without in passing paying a tribute of gratitude both for the admirable design of Council buildings and for the unfailing courtesy and helpful consideration which we London architects receive from Mr. Riley and his staff. My architect-in-chief would be *imprimis* the adviser of the London County Council upon the whole handling of their larger schemes. All new streets that run from one borough to another would be in his charge; all bridges and cross-river communications would come under his control. Wide projects such as the wholesale and artistic dream of Mr. John Burns would be under his artistic care, and generally he would be the appointed adviser on the artistic problem of London as a whole. His relationship to the borough architects would be intimate and I believe cordial. He would be officially the chairman of their monthly meeting, informally he would be their constant advisory colleague. There would be in the case of architects or owners objecting to the censorship of a particular design by a borough architect a right of appeal to the monthly board, and this would virtually mean that all doubtful cases would come before the architect-in-chief. I must not take up your time by full details of his tenure of office. I will merely say that, subject to a period of probation at the outset and of retirement at the close, I consider that this appointment should be both permanent and exclusive. Let me here remark that my Board of Borough Architects is no real violation of the axiom against architecture by committee. It is merely a bringing together of the men who have their own separate though co-ordinate spheres of action.

The objector may still have something to say against my architect-in-chief. "Why," he will ask, "put any single man into a position of such awful supremacy?" My answer is that the position of awful supremacy exists whether we appreciate the fact or not. It exists, and it is wiser to fill it with a man than to leave it occupied by a vacuum. The problems which would be the province of this architect-in-chief, if ever he be appointed, have undoubtedly got to be solved somehow. They are now waiting for solution. They may of course be solved by the haphazard decision of unarchitectural citizens sitting in elected oligarchy over London's destiny, but is that the right course? And, if it is not, surely the only reasonable alternative is the voice of an individual, the only voice that can really control an artistic issue. And is it not right that such an arbiter should be selected by the most critically artistic electorate that we can devise?

His autocracy would, I think, be sufficiently tempered by the Board of architectural colleagues.

As to his supremacy, may I finish my paper by reminding you of a town-planning story which is 2245 years old?

There lived an architect called Deinocrates in the fourth century B.C., whose powers were great and whose ambition was greater. He sought, for the furtherance of his own opportunities, an introduction to Alexander the Great. First he applied to friends at Court, who made the usual civil replies, said that they would do what they could, and in due course did—nothing.

So Deinocrates took the matter into his own hands and acted, to say the least, unprofessionally. Hearing that the monarch was on a certain day to hold a Court in the open air, he went to the place of assembly and stood on an eminence at the outskirts of the throng. The costume he had adopted was not that of a professional man, but the startling disguise of the god Hercules, a dress consisting of a club, a lion's skin, and a little olive oil.

The King, who noticed the apparition, asked what it meant, and was informed to his surprise that the god was an architect. Deinocrates, called forward, submitted to Alexander an astonishing plan for carving Mount Athos into the similitude of a giant. The King declined the design with thanks, but intimated that he would be willing at a later date to find work for so enterprising a practitioner. Alexander was as good as his word, and committed to our aggressive predecessor the planning of no less a town than Alexandria. The moral of the tale is not, I need hardly say, that any living architect who thinks himself eligible for the post of

controlling London should appear before the Chairman of the County Council in the guise of Hercules, but simply this. Alexander was a supreme general. A great general is mainly a man who chooses his subordinates with successful discretion. Seeing in Deinocrates (whose name signifies the Man of Dreadful Might) a person of originality and courage, he rightly judged him the proper instrument of his purpose. It is such an instrument that London needs: a man of might.

And lest you should fear that any mortal so honoured would be burnt up with pride of fame, let me tell you the sequel of my tale. It is recorded in history, to the utter oblivion of Deinocrates, that Alexandria was laid out by Alexander himself.

History may forget the names of our future guardians of London, and may attribute all their efforts to the successive Chairmen of the London County Council. There will be little harm in this so long as these guardians have been appointed and have been allowed to do their work.

DISCUSSION ON THE FOREGOING PAPER.

MR. LEONARD STOKES, *President*, in the Chair.

EARL BEAUCHAMP, K.C.M.G., First Commissioner of H.M. Works, in proposing a vote of thanks to the readers of the Papers, said he should like to say a few words in praise of London as it already is. Everyone would admit that there were exceedingly ugly buildings to be found in London; but was it not equally true that there were a great many very beautiful buildings? We were too ready nowadays to depreciate the circumstances under which we lived. He ventured to think we were living in a period which was almost a golden age. In the last generation England had produced an immense number of real masterpieces of literature. So also with regard to art; he had very little patience with people who spoke of foreign countries as leading us in the matter of art. We in England could produce extraordinarily fine work, and there was hardly a single form of art which had not its distinguished exponent among us. He confessed, too, that he was in despair at the exceedingly high prices given at auctions for works of bygone masters. People without any knowledge of art who commissioned others to buy pictures for them at enormous prices imagined that they acquired in that way a certain amount of reputation as patrons of art. They were nothing of the kind. He often wished for a more intelligent public opinion, which would do a great deal more for art if it would only do something for the benefit of artists living to-day. That brought him back again to the point that as we walk round London to-day we find a great many very beautiful buildings, even, he should almost say especially, among some of those recently erected. We all agreed with the various broad statements made by the readers of the Papers; it was when we came to matters of taste or opinion that we were apt to quarrel with our dearest friend. We might differ from him without any ill-feeling on points of importance, such as religion or politics; but when it came to whether we ought to have a blue background or a green background for a picture, then we had such a quarrel that we would not speak to him again for years! There would always be that difficulty in any question of art or of taste. He was sure they all agreed with the reader of the first Paper, Mr. Rickards; and, for his own part, he was exceedingly sorry that he stopped short where he did. When he began to speak of specific instances, he hoped that, though there were none in the proof of the Paper that was circulated, he would perhaps have among his notes some examples of specific instances which would have been of very real interest. Those, however, had been partly supplied by what Mr. Waterhouse had said. They all agreed with Mr. Waterhouse's three propositions: That the preservation of London's past and the guidance of London's future are an artistic trust of the greatest importance; and again, the necessary guidance of the action of the trustees should be sought, not from committees or societies, but from individuals; and that art is produced by individual artists, not by corporations. He was glad, however, that in a later passage he admitted that sometimes committees might be of some use. The President of the Institute and himself were sitting on a committee together, and he should be sorry to think that the result produced by that committee would be wholly bad. He hoped it would not be. But, at any rate, committees generally might sometimes stumble into doing the right thing. They also agreed that in matters of that kind architects were the proper advisers. With regard to Mr. Waterhouse's story of what happened so many thousand years ago, he should probably be attending a meeting of the London

County Council to-morrow, and he hoped Mr. Waterhouse would come as Deinocrates, if the Chairman of the London County Council had not made arrangements to exclude gentlemen in fancy dress from that meeting! At any rate, he felt that these interesting matters concerning London as a whole appertained really to the London County Council rather than to the Office of Works. At the same time, as representing the Office of Works, he should like to say that it was a pleasure to him to be present that evening, and to meet perhaps many of those who were the greatest critics of his department. It was not so very long ago that he himself was to be found among those critics; his transformation into one of the officials in the hierarchy that he used to criticise so strongly had been somewhat sudden and with some surprise to himself. He could assure them, at any rate, that the time when he was among those critics was still so short that he hoped he could still appreciate the criticisms offered, and he should always be glad to hear them offered by those present. The speaker concluded by moving a very hearty vote of thanks to the authors of the Papers.

Mr. W. WHITAKER THOMPSON said that he was present as Chairman of the London County Council, and he came within the definition that was given by the reader of the last Paper when he said that our difficulties might be solved by the haphazard decision of our unarchitectural citizens sitting in elected oligarchy over London's destiny. He was one of them—he had been got first shot—there was no doubt about it! He felt it, but he did not die under it; he was only seriously wounded at such a description of the way in which the elected citizens of London did their work at Spring Gardens! He was, however, prepared to bear these slight insults if he might be allowed to accord to Mr. Waterhouse a vote of thanks, because he quite agreed they were deserved—in his (the speaker's) case essentially, because he never was an architect and never professed to know anything about it. He knew what he liked to see in a street, and he knew what he would like some of the London streets to be if he had his way. If he were made the Chief Architect of London, he would take good care that in ten years' time, if the Finance Committee of the London County Council would back him up, he would make London what it ought to be so far as it was possible to do it in the time, according to his own ideas! They would not necessarily be the Institute's ideas, but he could not help that. Still, at the same time, they were all bent, he believed, on the same idea; they might have different ways of getting at it, but they all wanted to see, if they could, some way out of the difficulties before them in respect of street architecture in London. He, of course, and those who served with him on the London County Council, had to look at those things from, unfortunately, rather a different point of view from what others had—that was unfortunate for the County Council. They would like to insist upon the best form of architecture in their new streets, and upon the widening of all their old streets, with the retention of all that was beautiful in ancient street design. They could not always do it. They had, of course, help from some architects; he would not say from all of them, because some of the designs which came up to the London County Council to be passed, even with his unarchitectural ideas they did not appeal to him as being consonant with the buildings either on one side or the other, and patchwork he did not want to see continued. He had listened with very much interest indeed to the daring proposals put forward in the second Paper—really most original proposals from his point of view, because although he had served on a Borough Council, and although he had served on the County Council now for many years, this was the first time he had heard the bold proposal put forward that there should be twenty-eight Borough Council architects, with a central architect to sit as Chairman over those twenty-eight gentlemen once a month. He knew something about sitting as Chairman once a week—and they were not all architects on the London County Council; and he could imagine that the Chief Architect in Spring Gardens would have a merry time presiding over the accumulated architectural scholarship of all those gentlemen coming from their different boroughs, desiring, as of course he would, to work into a harmonious whole the ideas of all those gentlemen—the gentleman who came from Stepney with his idea of what the architecture of Stepney back streets (Sidney Street for instance) should be, and the gentleman who came from the Royal Borough of Kensington who had ideas as to what the architecture of Kensington in the future should be. Still, the idea was well worth consideration, and he was glad to have had it put before him. He believed it would be essentially useful if men in different parts of London would give the benefit of their services, either for an appropriate honorarium or for the honour of the thing, and associate themselves with the municipal work of their districts, giving that advice which would help to make the London streets a little more beautiful than they were at the present time. In the first Paper, he noticed, there was a plea for simplicity. That was a matter he could almost live up to himself; there was nothing that appealed to him so much, in his humble way of looking at things, as simplicity. He quite agreed with the reader of the first Paper that the tradesman should, as far as possible, restrict himself to the ground floor, and the less we have of advertisements up above the better for our eyesight and the better for London streets. He

wished to express very cordially the thanks that he was sure they all felt to the readers of the Papers for the most interesting food they had given them for architectural reflection in the future.

THE PRESIDENT remarked that Mr. Waterhouse had referred two or three times while reading his Paper to the recently issued Blue-book on the London Traffic Report. Sir Herbert Jekyll, who was very intimately connected with that Report, was present, and they should be very glad if he would say a few words.

SIR HERBERT JEKYLL, K.C.M.G., Assistant Secretary to the Board of Trade, said he would rather be excused. He had said all he had to say in the Blue-book, and he would not attempt to summarise a volume of that description in a few minutes.

SIR LAURENCE GOMME, F.S.A., responding to the Chairman's invitation to speak, said that he should like, in the first place, to suggest that, inasmuch as it was properly held to be wrong for those who were not architects to discuss an architectural problem, it was not quite fair for the architectural layman to begin the work of constitution-building. The constitution which had been suggested by the second Paper left out, to his mind, the most important factor, viz. that London required an ideal of its own, and, until it got that, they could not divide up London into sections and have twenty-eight ideals instead of one big ideal. It was, he thought, just as important for Stepney, and Shepherd's Bush, and all the ugly bits of London, to be in close touch with the architectural beauties of London, as it was for them to have an independent architecture of their own; and he would venture to put in a plea on this ground for a larger ideal than was suggested by the reader of the Paper. Compare what the ideal of the Roman City of London was. It was built on the ideal of Rome herself, and we had a big city and a big ideal there. We want to carry out the same ideal, as far as we possibly can, in all our big cities; we want an ideal of what a big city should be. We have not one, and we may very properly look to architects to supply that ideal. And when one hears in a Paper read in 1911 that architects should look after buildings of the past, to his view, thinking over the question of the fearful destruction of ancient buildings in the past by architects, he confessed it was one of those reforms of opinion which came very close home to him. It was not so very long ago that he was looking through the writings of that eminent architect, James Carter, and if one recollects the number of letters he wrote, on the enormous destruction that took place in London of buildings that had no business to be destroyed, one felt how very strongly those of us who love old buildings have a share on this particular topic; and it rejoiced his heart to hear Mr. Rickards claim that one of the great features of modern architecture ought to be the preservation of all that is good in London. He had ventured to criticise what he called the amateur constitution-building by Mr. Waterhouse, and he wanted, if he might, not only to be destructive, but constructive, and to suggest that the duty of the architects of to-day was to supply the principles on which the architecture of modern London should be governed, and not to attempt to carry out those principles before the principles themselves were settled. As an instance, street-corners gave opportunities for very pleasing architectural treatment; and when it was remembered that not so very long ago we had a beautiful street-corner in the case of Stratford Place, and that the London and Westminster Bank came along on one side and utterly destroyed that feature, while on the other side the ancient feature was retained, he would suggest that the architects of London should first of all apply themselves to the necessary architecture of street-corners, and then leave the building up of the houses in between the corners to individual tastes, by which they would get a very long way forward in coming to some sort of architectural design in London. This brought him to one very significant fact which he had always wanted to have an opportunity of asking architects about. If they went to any old city of Britain, Salisbury or Chester, or even certain parts of London itself, they found nothing else but beautiful buildings. How was it that in mediæval times, or in later times, they had a succession of beautiful buildings when they did not have architects? The builders were the owners themselves, who preferred and delighted in building beautiful houses. We still had in South Kensington the front of Sir Paul Pindar's house; how was it that Sir Paul Pindar built up that beautiful house without employing a professional architect? Professional architects did not exist then, and yet we had these beautiful places. He could not help feeling that it arose from an ideal which every citizen had in beautifying the city in which he lived. There were two expressions that Mr. Rickards used which he ventured to think should be engraven on the annals of the London County Council. The first was that London is "a city of lost opportunities." It is, and if the architects would come forward and agree on some principles which would enable them to advise on matters of this kind, we might perhaps recover at all events our position in this respect. The second observation that Mr. Rickards made was that we are a logical people. He always doubted that; he thought English people were most illogical. They declared for a principal, but when they came to carrying it out they did it very badly indeed, either half-way or not at all. [MR. RICKARDS: I said "illogical."] "Illogical"—that is my point. Finally, he ventured to think that

the vistas of London which were to be seen at all times of the year and at all times of the day, should influence our architecture. We might go along Oxford Street, and Baker Street, and other streets, which gave us very interesting and very important vistas at all stages of the day; and yet up to the present time those vistas were useless to us, from the point of view of architecture, because we had never taken them into proper account. Although he had been critical to this extent, he had very greatly appreciated the value of the two Papers, and he could not help feeling that they might be steps to something very greatly improved in the future.

Professor BERESFORD PITE [*F.*] asked if he might be allowed to challenge, on behalf of Mr. Waterhouse's fellow-shoemakers, Sir Laurence Gomme's suggestion that London was a city of lost opportunities. He ventured to remind the meeting that in wealth of mediæval glory there were few cities in Europe that could compare with what London possessed to-day. If for a moment they would group Westminster Abbey and St. Bartholomew's, Smithfield, and Southwark Cathedral and the Temple, they would go a long way to see such a group of buildings in any other city. If they passed from mediæval ecclesiastical buildings to mediæval palaces, they were able to point to Lambeth and Fulham, and group with those palaces perhaps the finest mediæval castle existing in actual work to-day, in the Tower of London. So that, without going beyond the middle ages, they had already in mediæval ecclesiastical, palatial, and military buildings the finest specimens in England in this City of London of theirs. Passing from the mediæval age to the Renaissance London, where in Europe could be grouped buildings like the Palace of Greenwich, Somerset House, and St. Paul's Cathedral, to say nothing of Waterloo Bridge and London Bridge and the Embankment together? London was not a city of lost opportunities; London was a city of gained opportunities. He believed Turner said, by divine instinct, that St. Paul's made London; and as London rose in the vision of every Englishman wherever he went in the world, it was St. Paul's dome on the top of the hill that made London; it was an architectural fact left on his mind. He noticed in *The Times* of Saturday that somebody had bequeathed to the public a painting by Toby Rosenthal, of Munich, a man of considerable reputation on the Continent some twenty-five or thirty years ago. When he (Professor Pite) was sketching as a student at Ratisbon Cathedral, Toby Rosenthal was at work there, and, finding he was an Englishman, Rosenthal explained to him that he was painting a commission from Walter Scott and he wanted some details, which he (Professor Pite) was able to give to him. Rosenthal described his visit to London, his introduction to Millais and to Watts, and then he said, "My dear fellow, I am an American, and when I came from America to Munich, I never came to London; but it is worth coming from America to see the Houses of Parliament from the river." So that, when they passed from Renaissance London to modern London, they need not lower their colours and lament over lost ideals, for they had attained in the Palace of Westminster a building that might well stand comparison with any modern building in the world. Coming to their own personal area of responsibility, they naturally were diffident, as they were face to face with a stiff-necked and unbelieving generation in the matter of art, and they were apt to lament the day on which they were born and wished it was as in times past. Sir Laurence Gomme had always represented to them the poetical view of London life. But London as it is to-day owed a great deal to its practising architects, and Mr. Waterhouse, he thought, need not apologise to the world at large for claiming that architects should be consulted with regard to what was being done in the present day. Whether the construction of a great scheme, irrespective of London's configuration and the different qualities of its vast and outlying suburbs, was possible or not was a matter for the County Council to consider; but the primary consideration of local direction and local control would surely be readily met by such a scheme as Mr. Waterhouse adumbrates. Beyond that, and within it, they had to be thankful for great public improvements, and he was sure, as Mr. Waterhouse referred to Sir Aston Webb's lead in this matter in his Presidential Address some years ago, they would not, on an opportunity of this sort, fail to give expression to their satisfaction at the great improvements from time to time conducted under the direction of Sir Aston Webb, and to express the hope that, whatever was done in the Mall, the wisdom which had led the Government hitherto would not fail to entrust Sir Aston Webb at the last moment with the completion of what was failing only from want of completion. It had been their lot during the last ten years to see a great effort made in that part of London and some recognition of architectural laws and principles, and they could only plead most earnestly and heartily that architects should continue to rule such problems until finally solved. On the general question of education as the solution of their difficulties the Chairman of the County Council referred most wisely and with far-sighted policy to the strengthening of the local borough councils by voluntary architectural knowledge. One could only hope that the borough councils and the County Council itself would continue to conduct their public business in such a way that busy professional men could afford the time to take an oar in the boat. One

rather feared that the times were hard with architects even in that matter, but education of public opinion by inducing artistic men to serve on those bodies was certainly one of the best methods of solving these difficulties. They had listened for many years to Mr. Waterhouse with great advantage; he ventured to offer the opinion that they had listened to him that evening with greater pleasure than ever, and that he had never read them a better Paper. They were very glad to welcome Mr. Rickards' contribution; they admired his genius and loved the work of his pencil. They had had two most interesting Papers, and he was glad to be allowed to support the vote of thanks to the authors.

Sir ASTON WEBB, C.B., R.A. [*F.*], said he thought they should all agree that the important point brought out that evening was Mr. Waterhouse's proposal that there should be some architectural control over the improvements and buildings of London. Mr. Waterhouse had been good enough to mention some proposals that he (Sir Aston Webb) made when he had the honour to occupy the chair which Mr. Leonard Stokes now so ably filled. He made these proposals on an occasion when Lord Plymouth, who was then First Commissioner of Works, was present, and he drew attention to a Commission which existed in certain American cities, to which all matters concerning street improvements were referred, not necessarily for their decision but for their opinion and advice; and Lord Plymouth was good enough to say that, if the Council of the Institute would ask him as First Commissioner of Works to bring the matter before the Government, he would do so. The Council did ask him, and he believed Lord Plymouth brought the matter before the Government; and there the matter had remained, so far as he knew. But he hoped that, Mr. Waterhouse having brought this subject again before them, and again with the advantage of the First Commissioner of Works being present, in due course something on those lines might be seriously considered. They knew, of course, that in official life the expert was not given an entirely free hand. The First Lord of the Admiralty and the Secretary of State for War were usually anything but a sailor and a soldier; and so possibly, in any scheme that might be proposed, the architectural expert would not have it entirely his own way. Possibly the chairman might be a man of taste and education and refinement, who would be able to weigh the opinions of the experts who came before him, something in the same way as the First Lord of the Admiralty had the aid of the Sea Lords to advise him. He agreed with Mr. Waterhouse that these advisers should be architects in practice who are familiar with the difficulties to be dealt with, and should serve for a term of years only; three years was probably rather short, perhaps five years would be sufficiently long for them to be there, so that all whose opinion was worth having should have an opportunity of expressing it. He could not sit down without acknowledging Professor Pite's kind and generous reference to his work, which he could assure him he appreciated very much. These papers by Mr. Rickards and Mr. Waterhouse were the sort of Papers that were most useful to the Institute, and the sort of Papers that the Institute should have, for they were bound in time to influence public opinion. Just now, public opinion seemed to be interested in architecture and the improvement of our towns, and if they could give some lead to that by such Papers as they had had that evening, they would be doing their duty to the great city which it was their pride and pleasure to live in.

Mr. ALEXANDER JAMIESON said that picturesque London should appeal, and did appeal, very much to another form of artist—namely, the one who painted the beauties of London, and he did not think the beauties of London could be augmented by any such idea as that put forward in the second Paper. The picturesque in itself was the result of accident, and this idea of having a great scheme advised by some superior architect would, he thought, result in a certain uniformity which would not necessarily be beauty. Mr. Rickards' Paper, to his mind, was distinctly on the level of the artistic, but the later Paper, which was entirely practical, seemed more to appeal to architects. He did not see how the artistic development of London could be arranged by Boards and Committees.

The PRESIDENT, in putting the vote of thanks, said they had had an excellent discussion and excellent speeches, though he thought they had wandered a little away from the subject, which was not so much the buildings of London as the artistic development of London. As regards the development of a big city he thought what Mr. Rickards said was very much to the point. They were apt to import sundry little pieces of Continental cities and to set them down in the midst of London and think they had done a great deal. Take, for instance, the London County Council improvement of Kingsway. That, he thought, rather illustrated Mr. Rickards' suggestion that some of their improvements were out of scale with the town that surrounded them. London might develop all over to that scale by degrees, but at present those big developments were like patches in the middle of our old city. The Chairman of the County Council would forgive him if he repeated what he had heard said about Kingsway. It was described as a large street with two ends at one end, and no end at all at the other! That rather went to show that we carried out our improvements in a somewhat patchwork

manner, and that we ought to have had a bigger scheme before us before we started to carry out one piece of it. It seemed to illustrate that we in England did not conceive a big scheme in the first instance, but only conceived a little piece in a big way, which was hardly the right way to set about making improvements.

Mr. E. A. RICKARDS [*F.*], in reply, said that he was particularly grateful to the President, because if it had not been for his observations he should have felt he had read his small Paper in vain. He was afraid he had been rather misunderstood. Certainly there was very little of any definite ideas in his Paper, but he hoped it would have been a suggestion and inspire more discussion. They had all been saying a great deal on the subject during the last year, and perhaps they were a little tired of it. The present occasion seemed to bear that out. He hoped he was not saying anything that their guests would consider discourteous. He had been talking with some of them during dinner and had had a very interesting discussion, particularly with Sir Laurence Gomme, Mr. Brock, and others; but Lord Beauchamp, if he would forgive him for saying so, seemed rather to voice the general feeling in this country with regard to art. We were always congratulating ourselves on past examples; he thought they were to speak of the future that evening, but he had heard nothing about it except from Mr. Waterhouse. He had had the privilege of reading Mr. Waterhouse's Paper beforehand, and he had purposely refrained from adding more to his own, because he did not want to take up time that might perhaps be more profitably devoted to Mr. Waterhouse's subject. Mr. Waterhouse had made an attempt to formulate something in a practical way, and he hoped more would be heard of it. If he had not hit the nail on the head, perhaps some other gentleman would assist him in doing so. They were waiting for something to be done. In spite of Professor Pite's kind remarks, he was very much disappointed with what he had said, for he did not expect to find him talking in the vein of those people who, in comparing, say, the possibilities of English painting with foreign schools, fell back on the art of Gainsborough and his period. He was sure Professor Pite had something more up his sleeve than that, and he hoped to have had a glimpse into the future from him because he was much better able to give it than he himself was. Mr. Waterhouse's Paper had been the success of the evening; it had interested him tremendously; and he thought it was a very gallant attempt indeed at something practical after all the flights of imagination of the past year.

Mr. WATERHOUSE, in responding, said that he was quite with Lord Beauchamp as to the Golden Age. If he was asked what to do with London, he should say, For Heaven's sake leave the whole place alone, do not do anything to it at all. But something had got to be done whether architects liked it or not: that was why he pleaded that architects should be consulted as to the doing of it. He himself was a whole-hearted Londoner, and as a voter he was a Conservative! It was not at all his wish to suggest these subversive things. All he said was that if they were going to do these subversive things architects should be consulted in the doing of them. The Chairman of the London County Council had taken his remarks with supreme urbanity, and he thanked him for it; he expected to be torn in pieces. It was not his idea that these twenty-eight borough architects should come and sit round a table hot with ideas for the improvement of London itself. Those twenty-eight men would mostly be engaged in their own boroughs on the simple and critical duties entrusted to them and the control of such improvements as were initiated within the borough, but they would certainly be extremely useful to his supreme architect. Lastly, it never for an instant occurred to him that those twenty-eight men would be anything but architects with clients. He did not suggest that they should carry forward schemes on their own responsibility, but merely that they should act as advisers of their own clients. Sir Herbert Jekyll had not said anything; he declined to speak; but he (Mr. Waterhouse) could not forbear saying something about his book. Those who were not in the habit of reading Blue-books might very well begin with this one; it was a most attractive volume, and if for nothing else, it would be enjoyed for its extremely interesting historical survey, with its history of roads in London from the beginning of time. He had also to thank Sir Laurence Gomme for his kind remarks; he spoke with a larger ideal; and he might say with regard to that, again, that it was not his idea that Stepney should be rivalling Marylebone, for example, in architectural experiments. He thought it probable that as some of these central boroughs were now in the position of censors, owing to the extent of Crown lands, it was very possible that the central architect would be called in by the borough architects, and that in some cases two boroughs might be combined under one architect. But there was no real reason why the borough itself should be selected as the unit, except for the borough being an entity already accepted in London; and it occurred to him that the use of a borough was a simple way of getting at the appointment of an individual architect. Stratford Place was a happy example to mention from his point of view. He contended that, had there been a borough architect for Marylebone, the things which troubled Sir Laurence Gomme and himself at the end of Stratford Place would not have taken place. He had to thank the meeting greatly for its

kind forbearance, and he would like to thank very much his colleague for the way in which his Paper had joined his own, and for the very charming things Mr. Rickards had said in it, things which he appreciated the more for having read them carefully before coming to the meeting.

MR. T. G. JACKSON, R.A., writes:—I quite agree with the need of proper supervision of building schemes by architects, whose business it is to be judges in such matters. In all walks of life professional advice is thought necessary when occasion arises for any unusual adventure. And it is only reasonable to have recourse to it when an architectural scheme of town-planning is on foot. But my own feeling is against appointing professional arbiters of taste. In the present state of architecture, when we are divided into so many schools, it would be difficult, if not impossible, to find men whose appointment would satisfy every one. And if a Gothic architect were appointed in Westminster, a Neo-Greek in Marylebone, and a Free-Classic in Holborn, we should only be setting the seal on our present state of anarchy and discord. My own idea would be to choose the right man on each occasion as it arises, which would enable one to suit the man to the particular case. But to dispense with professional advice altogether would, of course, be absurd in any public body when great alterations were under discussion.

Artists and the Coronation Decorations.

Sir W. B. Richmond, R.A. [*H.A.*], Mr. Frank Brangwyn, A.R.A., and Professors Gerald Moira [*H.A.*] and E. Lanteri have addressed a letter to the Mayor and Councillors of Westminster urging the adoption of a unified plan, which would symbolise at once the greatness of London as a city and its position as the capital of a great Empire, in the decoration of the Coronation route. "Our idea," they say, "is that the Council, or the special committee to which the Coronation arrangements are entrusted, should avail itself of the services of a committee of artists, who are willing to prepare designs and put forward a scheme. Our proposals are that in the matter of providing triumphal arches and in the decoration of the streets, unity of design and colour schemes should be preserved, and that different parts of the route should be so treated as to represent in symbolical form the various States and Dominions of the Empire. We may point out that we are anxious, in view of the nature of the occasion, not to add to the cost of the decorations by imposing any charge for the work of design and supervision, and our services would be gratuitously placed at your disposal."

REVIEWS.

MISERICORDS.

Misericords. By Francis Bond, M.A., Hon. A.R.I.B.A., &c. &c. 8o. *Lond.* 1910. *Price* 6s. *net.* [*Henry Frowde, Oxford University Press.*]

These modest-looking blue books, of which *Misericords* is one of the latest issued, are a boon and a blessing. They supply a felt want. *Misericords* in no way comes behind *Fonts and Font Covers*, or *Screens and Galleries*: it is, if possible, more replete with interest to the architect and archæologist. The companion volume to the one under review has since been issued, and forms, to some extent, its natural complement, as its subtitle, "Stalls," sufficiently indicates. It needed photography to illustrate such books as these, and now that photography is linked to the excellent reproducing processes, we have a body of illustrations that for beauty and clearness it would be hard to beat. We can imagine no books of greater practical usefulness to the craftsman than these and their like, while to the antiquary and ecclesiologist they supply long-needed exact data for the pursuit of his favourite hobby. And indeed, in the subject under immediate consideration there is a very deep human interest, which should make the book appeal to a far wider circle, for, as Mr. Bond observes in the Preface to *Misericords*, "the carvings . . . are a record of just what stately historians omit, and what is of real interest to know: not the ways of courts and politicians, campaigns and generals, but the simple everyday life of ordinary folk; they constitute a History of Social Life in England in the fourteenth, fifteenth, and sixteenth centuries, as it was lived by common folk; a history which represents things as they are, without the prejudices and prepossessions which so often make written records untrustworthy. What we see is an honest transcript of what went on every day in the cottages and the streets, the fields and the woods; we see country folk ploughing, sowing, weeding, mowing, reaping, carting, threshing; fattening and killing the family pig, sheep-shearing, milking; we see them enjoying their sports and pastimes; we hear the alehouse jests, the wise saws and modern instances, hoary witticisms, proverbs and nursery rhymes."

As we look at these piquant carvings and revel in the delightful humour of the departed craftsman the sad reflection comes home to us that the examples of misericords here collected for our delectation constitute perhaps not a tenth or even a twentieth of those that must have been in existence prior to the Reformation; and again that those *then* existing had replaced many an *early* series of greater beauty and interest. Such reflections, if unduly indulged in, however, would turn one into an architectural Mrs. Gummidge, for ever lamenting "the Old'un." It is more profitable to take stock of the treasures which, in spite of

Reformer, Puritan, and Vandal (in which epithet must, alas! be included many a "restoring" architect of the nineteenth century), have by good fortune come down to us. As Mr. Bond says (p. 224): "A vast number of misericords remain, especially in collegiate and monastic churches .... But it is impossible to catalogue all the misericords in the parish churches; in many parts of Norfolk and Suffolk one finds examples in almost every church visited, however small and remote." He has evidently been impressed by the impossibility of making his book an exhaustive treatise on this subject, and has abandoned (if he ever thought of attempting it) the making of a complete list of all the examples of misericords remaining in England. Scotland and Ireland (except in the case of Limerick Cathedral) he leaves out of account. He may have judged wisely, but we cannot help wishing he had attempted the compilation of an exhaustive list, arranged topographically and chronologically, to which the student might turn with some degree of confidence that he would obtain reliable information as to either locality or period. It is true that an abbreviated list, arranged chronologically, and therefore of the utmost value, occupies the last two pages, but it is not more than a skeleton, and even with this the county might have been indicated with advantage in many cases.

In the matter of the arrangement of the book we should have preferred an historical treatise at the beginning, so as to start with a clear idea of what a misericord is, and how and when it first came into being. This and kindred information is left to the concluding chapters, so that we get the "jam" of Mr. Bond's subject first, and the "powder"—if any part of so fascinating a book can be so rudely compared—last.

To reverse Mr. Bond's arrangement for the purpose of this review, we are led to trace the origin and development of the ranges of seats in which misericords are found from the stone benches for the clergy which lined the walls of quires or chancels, firstly as carried round the apse in tiers, like the seats of a theatre, with the bishop's or abbot's seat in the centre, converging upon the altar. This primitive arrangement obtained in England, in all probability both before and after the Conquest, being itself handed on from the basilican churches of Rome and the East. It would appear, however, to have been a use only partially conformed to, and to have been taken over with the basilican plan from a purely secular source; and its practical ritual disadvantages must have tended to its disuse, and to the substitution, at a comparatively early date, of the method of seating in quire that has since become practically universal, where the seats for the clergy or monks are ranged on each side of the lower quire, and sometimes even as far westward as the crossing or the first two bays of the nave, as in Westminster Abbey. This newer arrangement, reduced to its elements, would suggest a backless seat, placed against the north and south walls of the quire or chancel, with standards or elbow-pieces at the ends; and where the clergy or singers were numerous there would be two or more rows on each side; the bishop in cathedral churches, and the abbot in conventual, with dean and sub-dean, prior and sub-prior, seated in places of honour—the latter in return seats facing east. But the discomfort of such primitive movable seats must have early led to the evolution of a fixed range of stalls, not only with backs, but subdivided, so that each man should know and claim his seat. The heavy parchment office-books would at a later stage be provided with a desk; and then the next step would be the hingeing, to fold back, of the seat within each stall, so that its occupant might take advantage of the stall-elbows (which grew out of the staff or crutch allowed to infirm or aged monks, and must have developed into their present form at an early date), in order to support himself partially by standing, or half leaning back, within the stall-recess during the recitation of the psalter and at other times. Finally, this led to the making of a lip or projection on the underside of the seat, so that when this was turned up some support could be gained for the lower part of the body without actually sitting down. Next, as always happens in the history of architectural development, *construction was ornamented*—the purely practical feature was made a beautiful one—with the result that we have the misericord and—Mr. Bond's book.

The first misericords may have been evolved as early as the eleventh century, but we have neither records nor examples to justify us in saying so positively; the earliest specific mention of misericords, *i.e.* "indulgence seats," that Mr. Bond has succeeded in producing being in the year 1121, when Peter of Cluny speaks of "scabella sedibus inhaerentia": and at about the same time the actual word "misericord" was "employed at the convent of Hirsaugh, in Germany, the stalls being termed 'sedilia.'"

It has long been an ambition of the present writer to discover, stowed away somewhere in loft or wall-space, a veritable English twelfth-century misericord: but so far this has not been gratified, and he has been obliged to content himself with the earliest thirteenth-century examples, and to know that in Ratzburg Cathedral, North Germany, are, or were, some stalls of about 1172, with misericords.* By an irony of fate, the earliest range of wooden stalls in England—that in Rochester Cathedral, dating from about 1227—has lost its misericords, if they ever existed: while the Westminster stalls (*c.* 1253), of which we have some more or less trustworthy record, have perished long since. Happily,

* Illustrated in Maeterlinck's *Le genre satirique dans la sculpture flamande et wallonne.*

however, a solitary thirteenth-century misericord has been preserved among the sixteenth-century ones in Henry VII.'s chapel, and is pretty well known from the engraving in Parker's *Concise Glossary*, p. 156, and *Gleanings from Westminster Abbey*, p. 66.* Mr. Bond does not give an illustration of it, perhaps because it is so well known, but as it is a particularly good specimen of this early period, and *sui generis* in some ways, it might well have been included. Besides these, there have come down to us from the thirteenth century two wonderfully fine and complete series in Exeter Cathedral—dated on documentary evidence by Mr. Bond between 1255 and 1279†—and Chichester Hospital, of about 1290: while from Hemingborough in Yorkshire, and Christchurch, Hants, we have two or three excellent examples of about the middle of the century. One of these Exeter misericords, which displays the bust of a small figure looking out through a quatrefoil set in marvellously undercut foliage, with "supporters," in which are the heads of a mitred bishop and a lady in a chin-wimple, is to the present writer's thinking one of the most beautiful things in England—whether viewed as a composition or a piece of cunning craftsmanship. Fourteen in all of these wonderful Exeter misericords are selected by Mr. Bond for illustration, and we would not willingly have spared one. The merman and mermaid (p. 7), the sagittary (p. 13), and the extraordinarily life-like elephant (p. 28) are magnificent. In every detail the latter is correctly portrayed, and must have been the work of someone who had actually seen the great quadruped.

It is disappointing to find none of the fine figure and foliage subjects of St. Mary's Hospital, Chichester, among the illustrations—especially as they have been photographed by Mr. G. C. Druce, who has rendered much assistance to Mr. Bond in this work. The early naturalistic foliage and some of the figure subjects, such as a merman, are in the front rank for excellence of design and execution.

An abrupt contrast to all those we have been considering is the weird wyvern, the work of some village carpenter, at Weston-in-Gordano, Somerset; and although Mr. Bond does not date this, there is no doubt that it is of thirteenth-century date, possibly the oldest remaining in this country. The square-edge of the lip to the seat is an early "note."

The fine early series in Winchester Cathedral are not represented by any photographic illustration, although there is a borrowed woodcut of a grotesque on one of them. Mr. Bond assigns to these the approximate date 1305: but we are inclined to the conjecture that they were commenced at least fifteen years earlier. It should be borne in mind with reference to all these dates that a work of this nature would naturally occupy a generation in the execution. Some authorities have supposed that the misericords here are earlier than the stall-canopies, but this appears to the present writer unlikely, except in the sense that the practical part of the work—the actual stalls—would naturally be first made. The mixture of conventional, or Early English, foliage and mouldings with the purely naturalistic foliage of the Decorated period stamps this work as on the borderland between the two.

The Chichester Cathedral misericords, dated by Mr. Bond at about 1330, follow closely upon the last, and may be regarded as the first important series of the early part of the fourteenth century. They vary among themselves in excellence and date, some being probably thirty years older than Mr. Bond's date, but are all of spirited execution, and comprise both foliage and grotesques. One which the present writer has photographed—a woman thrusting a sword into the open jaws of a lion—is particularly fine.‡

Mr. Bond rightly places the Wells series—64 in number—first in order of merit among those of the early fourteenth century. They are admirable both in composition and technique: and combine grotesque and animal subjects with foliage. Those which are selected for illustration—a bat with extended wings (p. 107) and a falcon striking a rabbit—are perhaps as good as any; but some of the contorted human figures are models of anatomical study, and some of the heads (such as those of a man with curling hair and beard, mounted on a beast's fore-quarters, and a bishop with frizzed-out wig) are evidently portraits. The griffin—or sometimes a pair of them—appears several times over, and there are two mermaids, one of them suckling a lion. As one goes through series after series one meets with the same old myths, legends, chimeras, and monsters, moral stories, awful examples and time-worn jokes, filtering down from a hoary antiquity, from generation to generation. It is wonderful what a number of series of the first importance date from the fourteenth century. Besides the foregoing we have the fifty misericords of Ely, *c.* 1338 (among which Mr. Bond illustrates no fewer than seventeen); scenes from daily life, and

* Mr. Lethaby gives a small drawing of it in his *Westminster Abbey and the Craftsmen*, p. 25, and says (p. 23): "Two of the carved misericords still exist, and what is probably a portion of one of the carved divisions." The present writer has never been able to find more than *one* of these misericords. The carved division referred to is preserved in the Abbot's Dining Hall.

† On p. 202, Mr. Bond gives this latter year as 1269—a date which in itself appears more likely, as the carving is distinctly early throughout.

‡ One of this series, numbering 38 in 40 stalls, is of the fifteenth century (the same exception occurs at Exeter). He is a fortunate man who possesses the admirable drawings of some of these misericords by Mr. T. Raffles Davison, published in *The British Architect* of 1886. No better drawings of their kind, or more faithful, have ever been done. Photographic cards of the entire series (2*d.* each) can be obtained of Mr. Marsh, Chichester.

WORCESTER.

LYNN ST. MARGARET.

Scriptural incidents, such as the Expulsion from Eden and the Beheadal of John the Baptist—full of quaint feeling, and most delicately carved. Of the Lancaster series (1340) none are illustrated, but Gloucester Cathedral (1345) receives its full share of notice, both in text and illustrations, and these, which include romances, sporting scenes, and fables, are unique in being set within a graceful tracery panel. Mr. Bond notes in this connection that while the typical English misericord has a centre-piece flanked by bosses or "supporters," these Gloucester examples are exceptions, and the supporters are usually absent in foreign misericords. The present writer has noticed the fact that foreign examples are often of very small dimensions, and poor in character compared with English. At Xanten, in North Germany, for instance, the carved part is a mere crocket or knop of foliage. It is well known to travelled architects and antiquaries that the one thing conspicuously absent in the average French church or cathedral is that which is such an attractive feature in the typical English collegiate church or cathedral—the long range of ancient stalls on each side of the quire, with their misericords; but even where these have survived revolutions in taste, religion, or politics, the misericords, as a whole, are inferior both in design and workmanship. In Belgium also the humour is decidedly coarse.

But few of us realise that we have a fine series of mid-fourteenth century misericords in St. Katherine's, Regent's Park, brought there with the stalls in the early nineteenth century from the demolished St. Katherine's-by-the-Tower; amongst which is an elephant of very curious character. "He has," says Mr. Bond, "the head of a hog, and is muzzled like a bear; while his trunk is of telescopic construction and issues from the middle of his mouth, where his tongue should be." Contrast this with the very realistic beast, a century older, at Exeter, as an instance—one of many—that art travels oft-times backward.

The 108 misericords of Lincoln Minster alone (*c.* 1370) would furnish material for a book; so also would the sixty of Hereford (1380), the fifty of Chester (1390), and those of York, Norwich, and Worcester Cathedrals—all of the latter part of the fourteenth century, but space forbids detailed reference here. Mr. Bond cites in addition some nineteen other sets from large churches as belonging to this century, to which the present writer would add those of Beddington, Surrey, and Arundel, West Tarring and Etchingham, Sussex—all late in the century.

The fifteenth century presents us with a very full list; and indeed it is, up and down the country and on the Continent, the century to which the overwhelming majority of stalls and misericords belong. Just to instance a few, those of Maidstone (1415), Ludlow (1435), Sherborne (1436), St. Mary's Beverley (1445), Windsor (1460), St. David's (1470), Malvern (1480), Ripon (1490), Limerick—almost the only set remaining in Ireland, photographed by the present writer—Peterborough and Ripple. The last-named—a church in Gloucestershire, not as well known as it ought to be—has a fine series of the occupations of the months. Mr. Bond, by inadvertence, has omitted Newark from his list, and the present writer would add Lingfield, Surrey, West Wittering and East Lavant, Sussex,* Minster-in-Thanet, Cliffe-at-Hoo, and Lyminge, Kent, and Highworth, Wilts, as examples that have come under his personal notice and some of which are but little known to antiquaries. The three misericords at Highworth bear an angel, a man's head, with bushy locks and beard, and a mermaid. This last subject seems to have appealed equally to the carvers of the thirteenth, fourteenth, fifteenth and sixteenth centuries, as there are numerous examples, ranging from the two at Exeter to the corpulent lady combing her hair and displaying her abundant charms in a convex mirror, her tail outspread upon the rocks, in Henry VII.'s Chapel, Westminster. How many of us know this delightful piece of mediæval fantasy; or the equally good Phœnix rising out of his flames †; or the naughty Westminster boy being birched; or the irate housewife thrashing her husband? Mr. Bond gives us many instances of mediæval hen-pecking, as at Beverley (p. 89), where the woman has him by the ear; Carlisle (p. 179), where she is hitting him on the head; and Ely—a scratching match. And it is refreshing to note that the humour and *verve* of these records in oak is maintained undiminished—however much the artistic value may vary—down to the very latest in date before the Reformation, such as the misericords of Manchester (*c.* 1508), Christchurch, Hants (*c.* 1515), and Bristol Cathedral (*c.* 1520).

The seventeenth-century examples have an interest all their own—such as those of Wimborne Minster (1608) and Durham Cathedral, the latest on Mr. Bond's list, made to the order of the celebrated Bishop Cosin in 1665.

We have lingered too long in attempting a chronological review of *Misericords*, and cannot present more than an outline of the attractive by-paths in story-telling into which Mr. Bond and his subject would entice us. First, we have Eastern Mythology, under which heading we are rather sorry to see Mr. Bond placing our national saint—George of Cappadocia—who in spite of Gibbon's sneer *was* a real person and a martyr for the Faith;

* There is a solitary misericord, probably from the ruined priory hard by, in Hardham Church, Sussex, of fifteenth-century date.

† Mr. D. Weller, the ever-courteous Dean's verger, deserves a special meed of praise for his excellent photographs of these misericords and many other beautiful things.

HEMINGBOROUGH.

CHRISTCHURCH.

CHRISTCHURCH.

second, Classical Mythology — a very fruitful source of subjects; third, the Physiologus, or Bestiary subjects. These Mr. Bond groups under Part I. Part II. contains Travellers' Tales; Mediæval Romances (such as Reynard the Fox, the Knight of the Swan, the Lay of Aristotle, Virgil's Tryst, and Valentine and Orson); Æsop's Fables; Scenes of Everyday Life, &c., &c.; Old and New Testament subjects; Saints; Symbolical Subjects; Satires and Moralities; Nursery Rhymes and Wise Saws; Heraldry, Foliage, and miscellaneous compositions. These will sufficiently indicate the very wide scope of the book and the subject. It needs not to be added that Mr. Bond has done full justice to every section.

In the concluding part Mr. Bond gives us much helpful general information as to the use, dates, &c. of misericords, together with the skeleton list above referred to, and excellent indexes of places, illustrations, and things, for which last all good bookworms—themselves, by the way, fit subjects for a misericord !—will thank him.

Our author most amply acknowledges in the Preface his debt to the ready help rendered by all and sundry, with a special tribute to a mutual friend, Mr. G. C. Druce, whose knowledge of mythology and the Bestiary is perhaps unrivalled. In thanking Mr. Bond for giving us this delightful volume we would fain include all who have enabled him to make it so full and attractive.

PHILIP M. JOHNSTON, F.S.A. [*F.*].

HOME WORK.

The English Home. By Banister F. Fletcher and Herbert P. Fletcher, FF.R.I.B.A., FF.S.I., &c. With an Introduction by His Grace the Duke of Argyll, K.T. With 336 *Illustrations. Price* 12*s.* 6*d. net.* [*Messrs. Methuen & Co., Ltd.,* 36 *Essex Street, Strand, W.C.*]

British architects have a very true love for domestic work, and, although it is perhaps the least remunerative part of their calling, they have good reason for that affection. They are, of course, conscious of the faults which they see in each other's designs, but they know also that in the eyes of the world the British home is the redeeming feature of British architecture. The making of a human habitation is in itself a very fascinating occupation; the problem it presents does not put an undue strain upon the designer's imagination so as to keep him awake at nights, and the erection of the building can be completed before he is tired of the job. Such work has been greatly helped in its thorough development by the fact that it is seldom, if ever, the subject of a competition, and for the same reason it is not associated with the bad feeling that competitions sometimes engender.

The greatest charm of this branch of architecture, however, is perhaps to be found in the fact that it brings the architect into contact with his client amid the most pleasant circumstances. The average man does not consult an architect until he has begun to prosper. He may have had to call in other men to help him through difficulties such as a vexing law-suit or a wearing illness, but of these the architect hears nothing. The client has passed through them and is reaping the reward of his early efforts. His wife has learnt to understand him thoroughly, and he has abandoned his attempt to understand her. The children are growing up and he finds that his house, like his evening-dress waistcoat, is no longer adequate. He decides not to renew his agreement with his landlord, and when he goes into figures he is amazed by the amount of rent he has paid for the place since he first went there with his bride. He resolves to become his own landlord. He goes house-hunting, and during that proceeding he discovers that houses are, or should be, designed by architects. Perhaps he buys "The English Home." In any case, if he determines to build and employs an architect, he will become acquainted with those mysterious diagrams known as plans, sections and elevations, and he may be amused, with *Mr. Punch*, by the scanty resemblance which the architect's first sketch bears to his own rough idea. As a shrewd man of the world he will add a grain of salt to the practical and economical reasons which the architect advances to justify the changes that from time to time are introduced into the drawings, for he will guess that they have something to do with proportion and composition, of which the architect has spoken in moments of enthusiasm.

When the requirements of the wife are reconciled with the financial limits of the client, the restrictions of the site (which we will hope is freehold), and the ideals of the architect (who we will hope has his diploma), the client will enjoy the exhilarating experience of watching building operations. His confidence in his architect may be somewhat strained during the early stages of the work by his apprehension that the rooms will be too small and that the windows will be too large, but the brickwork will be run up and the roof covered in at an astounding pace. The pride and pleasure of proprietorship thus excited will be checked by the tedious process of finishing off; but when it is all over, and all the wood and iron work, usually so treated, are covered with four coats of paint of standard quality in a proper and workmanlike manner ready for occupation, the client will realise that he has had the time of his life; and when the garden has been got into shape and the architect accepts the wife's invitation to dinner in the new home it will be to him more truly his own than any other building has been before—in fact, it may not be long before he will be convinced that he designed it himself.

We have suggested that the average man who contemplates building might buy a copy of the book under review because, in the introduction by the Duke of Argyll, it appears that it is intended for

perusal by the layman. If he does buy it he will find an interesting historical account of the English home which shows among other things the origin in feudal times of such words as "hall," "pantry," "larder," &c., &c., which are familiar in the particulars of desirable residences as issued by house-agents to-day; but that, unfortunately, the plans which illustrate that part of the book are of much too small a scale to be helpful. From the one chapter on construction he will gather a little knowledge, and from the half-dozen chapters on sanitation he will get enough detail to make him uneasy as to such matters for the rest of his days. The chapters on furniture and the garden he will find to be suggestive, but the most useful part of the volume is undoubtedly the group of illustrations of houses erected from designs by the authors, and by Messrs. Arthur T. Bolton, Walter Cave, E. Guy Dawber, Forsyth and Maule, Arthur Keen, E. L. Lutyens, Maurice H. Pocock, A. N. Prentice, M. H. Baillie Scott, Harrison Townsend, and C. F. A. Voysey. The brief notes dealing with these various examples of English homes state in many cases their actual cost, and that is the first thing that the average man wants to know.

J. Nixon Horsfield [*A.*], F.S.I.

OLD MASTERS IN ARCHITECTURE.

Architektonische Handzeichnungen alter Meister edited by Dr. Hermann Egger, Professor at the Technical University, Vienna. Large folio. Price £5 per volume. [*Friedr. Wolfrum & Co. Vienna and Leipzig.*]

This publication of "Architectural Drawings by Old Masters" partially realises the suggestion made some years ago by Heinrich Freiherr von Geymüller, which unfortunately came to nothing, *i.e.* the compilation of "A Photographic Thesaurus of Architecture and its Subsidiary Arts."

The name of the editor, who since Geymüller's death is the greatest expert in this special province of artistic research, guarantees the careful selection of the plates as well as the accuracy of the letterpress, and thus the permanent value of the work is insured.

For years Dr. Hermann Egger, lecturer on General Architectural History at the Vienna University, has been at work cataloguing the celebrated collection of architectural drawings of the Royal Library in Vienna. The examples drawn from this, as well as from other public and private collections in Vienna and abroad, are with a few exceptions, now published for the first time.

The selection is made from the architectural drawings of old masters of various schools from the thirteenth to the nineteenth centuries. Each example is typical of the characteristic technique of any particular master at the time when his style had reached maturity, and this work is therefore of peculiar value to collectors, art dealers, museums, and all interested in the identification of old drawings. The extent of ground covered by the illustrations, which include sketches for ceilings, windows, gardens, stage scenery, &c., besides buildings, make it of no less practical use to the decorative painter, sculptor and craftsman, not to mention that it offers a source of endless pleasure and instruction to the architect.

The whole get-up of the publication is worthy of the subject and will appeal alike to bibliophiles and lovers of art. Each part is enclosed in a stout portfolio and consists of twenty plates. These are admirable phototype reproductions, mounted on grey boards and remarkably clear and sharp. Some are reproduced in several colours in order to give a better idea of the charm of the original. Thus one plate gives a delightfully vigorous design for a vaulted ceiling, by a sixteenth century Italian artist, in which numberless active cherubs supporting sepia architectural details stand out effectively from a background of blue heavens. Another plate shows Bernini's first red chalk scribblings for his baldacchino in St. Peter's, with more definite outlines in ink below. Plate 37, a stage background, is a wonderful example of the unusual mastery that Giuseppe Galli (1696–1756) had over the laws of perspective, and, although only nineteen at the time he made this design, it shows him to be already one of the greatest masters of Barocco decoration, and justifies the high estimation in which he was held by his contemporaries. Plate 6 gives an example of the style of work produced by travelling students of the sixteenth century. This is a sketch made by Hans Böblinger of a church built by his father in Esslingen, and is of great value as a memorandum of the building, which was pulled down in the nineteenth century without any record being made of it. Altogether it would be difficult to over-estimate the artistic, scientific, and historic value of this great publication, which will consist of several volumes, each volume appearing in five parts.

Ethel Charles [*A.*]

9 Conduit Street, London, W., 18*th February* 1911.

CHRONICLE.

The Corporation Bridges Bill.

In *The Times* of the 16th inst. appeared the following letter, addressed to the Editor, from the President of the Institute :—

9 *Conduit Street, W.*: 15 *Feb.* 1911.

Sir,—The powerful leading article which appeared in *The Times* of February 11th on the subject of the proposals for new bridges over the Thames has encouraged the Council of the Royal Institute of British Architects to hope that you will assist them in calling the attention of the public and of Members of Parliament to the opposition which they have felt it their duty to offer to the scheme of the Corporation embodied in the Bridges Bill now before Parliament.

Last week we lodged a Petition in the House of Commons praying that the Bill might not be passed into law. We have condemned the proposal in the past and we are opposing the Bill now because we are convinced that it would be a great disaster to London if the plan of the Corporation were carried out. As we have stated to the House of Commons it is in no spirit of carping criticism but from a very real desire that a great opportunity shall not be misused and so lost for ever that we are taking up this position. The magnitude of the proposal is evidenced by the expenditure involved, but it is the magnitude of the opportunity which appeals to us, and it is with great regret that after much careful and anxious consideration we are forced reluctantly to condemn the scheme of the intended works, which has been prepared without any apparent consideration of the architectural character of the scheme, and purely from a utilitarian point of view. No such scheme would have been put forward in any other capital in the world without the most careful consideration from every point of view, artistic as well as practical. Of recent years much has been done to add to the amenities of London, and in the execution of public works regard has been had, notably in the case of the Strand and Mall improvements, not merely to the public convenience, but also to architectural and monumental effect. We are convinced that in the present instance there is no sufficient reason why the latter should be subordinated to the former and why the intended works should not be carried out on lines and in a manner worthy of the City of London and the capital of the British Empire, and so as to secure the very finest results. The scheme, which is a public one to be defrayed out of public funds and in the public interest, should be well done or not at all. To force on the community, on the plea of economy, a work which on the face of it is ill-considered, is a policy which we most earnestly hope will not commend itself to Parliament.—I am, Sir, yours faithfully,

Leonard Stokes,
President R.I.B.A.

The Institute Petition against the Bill.

The Institute Petition against the Bridges Bill praying to be heard by Counsel, &c., runs as follows :—

To the Honourable the Commons of the United Kingdom of Great Britain and Ireland, in Parliament assembled.

The Humble Petition of the Royal Institute of British Architects, under their Common Seal,

Sheweth as follows :—

1. A Bill (hereinafter called "the Bill") promoted by the Mayor and Commonalty and Citizens of the City of London (hereinafter called "the Corporation") is pending in your Honourable House intituled "A Bill to empower the Corporation of London to construct a new bridge over the River Thames between Blackfriars and Southwark Bridges; to rebuild Southwark Bridge, and to confer other powers upon them with respect to those and other bridges, and for other purposes."

2. The Preamble of the Bill (*inter alia*) recites that the construction of a bridge over the River Thames between Blackfriars and Southwark Bridges, together with approaches to the said bridge on either side of the said river and other works, would be attended with local and public advantage, and that it is expedient that power should be conferred on the Corporation to construct the said bridge and approaches and to execute the works necessary for or incidental thereto.

3. By Clause 6 of the Bill it is proposed to authorise the Corporation to construct the following among other works :—

Work No. 1.—A new bridge and approaches for vehicular and pedestrian traffic across the River Thames commencing at or near the junction of Southwark Street and Great Guildford Street Southwark and terminating on the south side of Cannon Street in the City of London at a point 15 yards or thereabouts measured in a westerly direction from the centre of Old Change.

In connection with Work No. 1 above described it is also proposed to authorise the Corporation to construct a widening of St. Paul's Churchyard on the eastern side, a subway for foot passengers in Knightrider Street, and a diversion of Old Change Hill, all of which are more

particularly described in the Bill as Works Nos. 2, 3, and 4 respectively.

4. The Corporation also seek power by Clause 7 of the Bill in connection with the construction of the proposed bridge, to alter the lines and levels of, stop up, break up, divert, raise, lower, or widen the streets and roads therein specified; by Clause 9, to deviate to any extent not exceeding 3 feet downwards and 5 feet upwards from the levels defined on the deposited sections, and to any extent laterally within the limits of deviation defined on the deposited plans; by Clause 20 to make subsidiary works; and by Clause 30 to erect buildings and premises over the diversion of Old Change Hill.

5. The estimate of cost for the whole of the works proposed to be authorised by the Bill, including the purchase of lands, is stated at £2,207,983. It is proposed by Clause 39 of the Bill to empower the Corporation to borrow a sum of £2,250,000, and such further sums as may be necessary, and, by Clause 40, to apply the surplus rents and profits of the Bridge House Estates for the purposes of the Bill.

6. The Royal Institute of British Architects was founded in the year 1834, and by various Charters constituted a body politic and corporate, with perpetual succession and a common seal, for the purpose of forming an institution for the general advancement of architecture, and for promoting and facilitating the acquirement of the knowledge of the various arts and sciences connected therewith. Under the provisions of their Charters your Petitioners' Institute has taken into alliance 21 architectural societies acting in the principal cities and towns in the United Kingdom and in the British Empire.

7. Your Petitioners' Institute, as the only chartered body of architects in the United Kingdom, accepts and claims as part of its responsibility and public duty the function of tendering advice to the Government, the Corporation, and the London County Council, on all legislation, bye-laws, and regulations pertaining to architecture and building generally, and under Sub-section (4) of Section 164 of the London Building Act, 1894, notice has to be given to the Institute of all bye-laws proposed by the London County Council "before applying to the Local Government Board for the allowance of any such bye-laws." The advantage to the community of having at its disposal the technical advice and experience of a body of experts is admitted on all hands, and it has been the practice of Government Departments, and of the London County Council, to avail themselves of this advice and experience, and the principle is recognised not only in the Metropolis Building Act, 1855, but also in Section 16 of the Metropolis Management and Building Acts Amendment Act, 1878. Since then your Petitioners have been consulted by the London County Council in connection with, among others, the Bills for the London Building Acts, 1894 and 1905, and the provisions relating to buildings of the Bill for the London County Council (General Powers) Act, 1909, and the advice tendered by your Petitioners has led to many alterations in proposals as first submitted to Parliament, and which, as altered, have subsequently become law.

8. Your Petitioners as representing the general interests of architecture in London and elsewhere allege that those interests are prejudicially affected by the Bill and they object thereto for the reasons with others hereinafter stated.

9. Your Petitioners view with the gravest apprehension the proposals of the Bill with respect to the construction of the said intended bridge and its approaches on the lines and in the position shown on the plans deposited in relation thereto.

10. It is in no spirit of carping criticism, but from a very real desire that a great opportunity shall not be misused and so lost, that they respectfully submit that the powers sought by the Corporation should not be granted.

11. The magnitude of the proposal is evidenced by the expenditure involved, but it is the magnitude of the opportunity which appeals to your Petitioners, and it is with great regret that after much careful and anxious consideration they are forced reluctantly to condemn the scheme of the intended works, which has been prepared without any consideration of the architectural character of the scheme, and purely from a utilitarian point of view. No such scheme would have been put forward in any other capital in the world without the most careful consideration from every point of view, artistic as well as practical.

12. Of recent years much has been done to add to the amenities of London, and in the execution of public works regard has been had, notably in the case of the Mall improvement, not merely to the public convenience, but also to architectural and monumental effect. Your Petitioners allege that in the present instance there is no sufficient reason why the latter should be subordinated to the former and why the intended works should not be carried out on lines and in a manner worthy of the City of London and the capital of the British Empire, and so as to secure the best architectural results.

13. The scheme, which is a public one to be defrayed out of public funds and in the public interest, should be well done or not at all. To force on the community, on the plea of economy, a work which on the face of it is ill-considered, is a policy which your Petitioners most earnestly hope will not commend itself to your Honourable House.

14. The Preamble of the Bill so far as it relates to the matters aforesaid cannot be substantiated by argument or evidence.

Your Petitioners therefore humbly pray your Honourable House that the Bill may not pass into a law as it now stands and that they may be heard by their Counsel, Agents, and Witnesses against the Preamble and such of the clauses and provisions of the Bill as affect their rights and interests and in support of other clauses and provisions for their protection, and that they may have such further and other relief in the premises as to your Honourable House may seem meet.

And your Petitioners will ever pray, &c.

LEONARD STOKES, *President.*
JAMES S. GIBSON
ERNEST GEORGE } *Members of Council.*
E. GUY DAWBER
IAN MACALISTER, *Secretary.*

The New Bridge Scheme and the Safety of St. Paul's Cathedral.

The Times of the 9th inst. published the following letter signed by Messrs. John Belcher, R.A. [*F.*] W. D. Caröe, F.S.A. [*F.*], T. E. Collcutt [*F.*] Ernest George, A.R.A.[*F.*], Sir Oliver Lodge, F.R.S.

the Hon. Charles A. Parsons, C.B., and Sir James W. Szlumper, M.Inst.C.E. :—

"Questions connected with the construction of a new bridge across the Thames, hitherto referred to as 'St. Paul's Bridge,' are not only of metropolitan but of national interest.

"The carrying out of such a project involves considerations of great importance, both æsthetic and practical.

"A Bill will shortly be introduced into Parliament asking for powers to carry out the proposed scheme, and the object of this letter is not merely to draw attention to these essentials, but to consider the necessity of claiming from the supporters of the Bill a guarantee that St. Paul's Cathedral will not be endangered by any subterranean excavations.

"It is true that the Bill contains no mention of a tramway; but this must not be taken as an indication of any abandonment of such a scheme, for without tramways half the usefulness of the projected route is lost. It should be borne in mind that one of the main objects of the avenues recommended by the Royal Commission of London Traffic was to link up the North and South tramways systems.

"The hiatus at present existing is not got rid of by the scheme embodied in the Bill, but the treatment of this branch of the subject has, no doubt, been postponed until a more favourable moment.

"We therefore would impress upon the public the necessity of insisting upon a guarantee from the authorities that, if this bridge scheme is carried out, the tramways so essential to the practical completion of the project must not pass through a subway so near to St. Paul's Cathedral as to be a very serious menace to the structure."

A Great Memorial Scheme.

The following is quoted from the admirable leading article which appeared under the above heading in *The Times* of the 11th inst.

Twice within this week our readers have had their attention called to schemes for the improvement of London, schemes long ago conceived but as yet not translated into fact. Both have to do with bridging the river and with the incidental problems that follow upon such an undertaking. With regard to St. Paul's Bridge, we published a letter on Thursday, signed by several weighty names, which dealt not with any of the larger questions connected with the bridge but only with one point, small but very important. As everybody remembers, there are at least two views as to the exact place where this bridge should be and as to the point where the roadway should approach St. Paul's Cathedral. In the recent Town-Planning Exhibition none of the London schemes was treated with greater ingenuity or with greater insistence than his; but while the architects were, and are, unanimous on one side, the City authorities appear to be firm on the other. It is to be feared that, just as the London County Council has rejected the suggestions, and the very prayers, of all the best architects and artists in regard to the line of the Strand below Kingsway, so the Corporation will refuse to incur the expense of the artists' plan as to St. Paul's Bridge. For the moment, however, this is not the point. The present object of Mr. Belcher and his three colleagues—of Sir Oliver Lodge, Mr. Charles Parsons, and Sir James Szlumper—is not to secure a fine approach for the bridge, but to prevent a very possible danger to St. Paul's Cathedral. There has long been a certain anxiety about the foundations, and while the expert reports have been reassuring, it is certain that nothing must be permitted which would render them less secure than they are at present. But it is inevitable that, when the bridge is made, tramways will be carried across it. Tramways are more and more proving their own necessity. A new Board of Trade return shows that the number of passengers carried by them in London has quickly reached almost incredible figures; that in Greater London it far exceeds the suburban traffic of the great railway lines and other means of transport; that, in fact, it is now close upon two millions a day. With such proof of the popularity of the tramways it is certain that a new bridge will not be left without them. But how are they to be taken past St. Paul's? To find a way through the streets is not easy in that region of narrow thoroughfares, and the alternative of a subway will be suggested. The object of the letter from Mr. Belcher and his friends is to insist that no such subway must be permitted so near to St. Paul's as to endanger the foundations. Parliament must make sure that this peril is avoided.

The other question, which was for the second time discussed by a Correspondent last Tuesday, is a much bigger one, admitting every kind of difference of opinion. The problem of a fitting Memorial to the late King seems still very far from solution, and the only recommendation as yet made by the Committee is that it should "include" a statue. Although, in agreement with the Prime Minister's suggestion, most of the money subscribed throughout the country is going to local objects, the London Memorial ought to be in a true sense national, and worthy alike of the King and of his capital. It cannot be said that the appeal has met with a hearty response, for the fund has as yet reached only 54,000*l*. In part this may be due to the vast increase of public burdens which recent years have seen; but we suspect it is even more due to the vagueness of the proposal. People will not subscribe liberally unless they know what it is for and approve the object. A statue is, of course, a very proper part of such a Memorial as this; but more than enough has already been raised for this object, and, if the flow of contributions is to be renewed, something must be suggested which will really stir the public imagination. This is certainly done by the scheme described on several occasions in these columns, a scheme so large that no voluntary contributions could cover more than what might be called the decorative part of it. The essential part is a matter for a combination of public authorities; and the only way to set them in motion is to persuade them that the improvement would be not only a real improvement, but financially sound. Unfortunately the experiment of Kingsway has been a painful one

for the London County Council, and has stopped the path of other improvements more than can be told; but at last the blight on that fine street seems to be passing away, and great buildings are rising in many parts of it. Perhaps this may set the Council free to consider an even nobler scheme—that of the transfer of Charing Cross Station to the south of the Thames, the building of an "Edward VII. Bridge," and the development of the Surrey bank, in continuation of great works undertaken by the Council itself in connection with the new County Hall. For such is the project; so large that it sounds a little staggering to the unimaginative London mind, but a scheme for which our Correspondent has made out a good case, and which deserves to be treated seriously. A scheme which would (1) make a worthier use of the land at Charing Cross; (2) substitute a fine bridge at the finest point of the Thames for an iron horror; (3) embank the Surrey side from the County Hall to beyond Waterloo Bridge, and open the way for gardens and noble buildings; and (4) concentrate and improve the southern railway termini—such a scheme is *prima facie* a very attractive one. Let it be proved that it would pay good dividends, financial as well as moral, and it might really be begun, in the hope of completing it in thirty years.

It was seriously examined in an article in last month's *Nineteenth Century and After* by Captain Swinton, the Municipal Reform Whip in the London County Council; and it was shown to be by no means impracticable. The wonder is that London should have waited so long for such an obvious improvement. Here, close to Westminster and to Charing Cross, is a mile of magnificent river front given over to mud and wharves or factories, with a *hinterland* of mean streets; whereas the whole region might easily be brought into the central life of the capital, and done so remuneratively. Few people realise that York Road, over against Waterloo Station, is no further from the Houses of Parliament than is Pall Mall, and that the land on which the new Municipal buildings are to rise is nearer still. There are about 130 acres of land in the fan-shaped space scheduled by Captain Swinton, and these are at present very wastefully used. The difficulties of making a nobler use of them and of rehousing the working population which would be displaced would be considerable but not insurmountable. Even the chairman of the South-Eastern Railway Company has taken up a sympathetic attitude towards the project. He has said that, if due compensation were granted, it would be impossible for the company to oppose a scheme which would certainly be a great benefit to London and would beautify the City. Captain Swinton believes that the directors would find in the concentration of the southern termini an advantage which would in a great measure compensate them for the loss of Charing Cross.

Shakespeare Memorial Theatre.

At last week's meeting of the London County Council Sir John Benn presented a petition from the Shakespeare Memorial Committee praying that the Council would grant a site for the Shakespeare Memorial Theatre. The removal in due course of the Council's offices in Spring Gardens to the new County Hall, now in course of erection, appeared to offer to them a unique opportunity for securing a site which would be more suitable for a national institution or memorial than for any other purpose to which it might hereafter be put. They trusted that the Council would see their way to help the project by granting the Committee an option on the most favourable terms. The petition was referred to the General Purposes Committee.

Subjects for Prizes and Studentships 1912.

The pamphlet giving particulars of the Institute Prizes and Studentships for the year 1912 is issued to members with the present number of the JOURNAL and is on sale at the Institute as usual. The prizes and subjects set are as follows:—

THE ESSAY MEDA AND TWENTY-FIVE GUINEAS open to British subjects under the age of forty.—*Subject*: "The Principles to be observed in Designing and laying out Towns treated from the Architectural Standpoint."

THE MEASURED DRAWINGS MEDAL AND TEN GUINEAS, open to British subjects under the age of thirty.—Awarded for the best set of measured drawings of any important building—Classical or Mediæval—in the United Kingdom or abroad.

THE SOANE MEDALLION AND ONE HUNDRED POUNDS, open to British subjects under the age of thirty.—*Subject*: "A Guildhall."

THE OWEN JONES STUDENTSHIP: CERTIFICATE AND ONE HUNDRED POUNDS, open to members of the architectural profession under the age of thirty-five.—Founded to encourage the study of Architecture more particularly in respect to Ornament and Coloured Decoration. Competitors must submit testimonials, with drawings exhibiting their acquaintance with colour decoration and with the leading subjects treated of in Owen Jones's *Grammar of Ornament*.

THE GODWIN BURSARY: SILVER MEDAL AND SIXTY-FIVE POUNDS, open to members of the architectural profession without limitation of age.—Founded to promote the study of works of Modern Architecture abroad, and awarded for the best selection of practical working drawings, or other evidence of special practical knowledge, and testimonials.

THE PUGIN STUDENTSHIP: SILVER MEDAL AND FORTY POUNDS, open to members of the architectural profession (of all countries) between the ages of eighteen and twenty-five.—Founded to promote the study of the Mediæval Architecture of Great Britain and Ireland, and awarded for the best selection of drawings and testimonials.

THE ARTHUR CATES PRIZE: A SUM OF FORTY GUINEAS, open to British subjects who have passed the R.I.B.A. Final Examination at one sitting during 1910 and 1911.—Awarded for the best set of testimonies of study submitted for the Final Examination, and for studies of Classical or Renaissance and of Mediæval Architecture.

THE TITE PRIZE: CERTIFICATE AND THIRTY POUNDS, open to members of the architectural profession under the age of thirty.—*Subject*: A Design, according to the Methods of Palladio, Vignola, Wren, or

Chambers, for the Central Courtyard of a Royal Exchange covered with a roof.

THE GRISSELL GOLD MEDAL AND TEN GUINEAS open to British subjects who have not been in practice more than ten years.—Founded to encourage the study of Construction. *Subject*: Design for an Isolated Exhibition Building.

THE ASHPITEL PRIZE: BOOKS VALUE TEN POUNDS.—Awarded to the student who distinguishes himself the most highly of all the candidates in the Institute Final Examination 1911.

The Prevention of Corruption Act, 1906.

The Manchester Society of Architects recently called the attention of the Council of the Institute to a letter or circular which had been addressed to one of its members, of which the following is a copy:—

165 *Granville Street, Birmingham:*
10*th October* 1910.

DEAR SIR,—Having regard to the quantity of metal work given out each year by Architects, and the consequent enormous amount of labour thereby entailed upon them in furnishing the art metal firms with the necessary tracings, suggestions, &c., it is a matter for regret that no financial remuneration directly accrues to the Architect therefrom.

At first glance, there may be obvious reasons why this is so. The position of the Architect is a peculiar one. Professional etiquette precludes him from accepting any monetary consideration from firms whom he favours with orders for metal work.

Lest we be misunderstood, we beg to state here that we do not imply that the Architect *should* receive any consideration, in the way of a bribe, for the orders placed by him. He would quite naturally resent any such proposal, and we respect his scruples. We do, however, urge that the Architect is justly entitled to suitable recognition from metal firms for work—in the way of tracings, details, &c.—which he furnishes to them.

We have always felt that some scheme to link up the Architects with the metal firms is much needed—some scheme of co-operation for the common good of both. With this aim in view, we have gone very carefully into the subject, and our proposition is as follows, viz.:—

We propose to invite a limited number of Architects to join us in our enterprise. All we ask you to do is to send us your inquiries—in strict competition with other firms, for we ask no favours—and upon all orders resulting to us from such inquiries, we undertake to reserve to you out of our profits on such, a minimum of 10 per cent., in return for the services you must necessarily render us in the way of tracings, details, suggestions, &c.

At the moment the name of our firm does not loom large in the metal world. We do not, however, ask you to take us on trust. On the contrary, we cordially invite your inspection of our works and plant, and also the work of our chief designer—a front rank man—to enable you to judge of our claims to your confidence.

Your name has been chosen by us as likely to co-operate with us in our enterprise, and we shall be glad to hear if we may have the pleasure of including it on our list.

Thanking you in anticipation of a reply at your early convenience,—Yours faithfully,

J. AUSTIN & CO.

Inquiries have been made at Birmingham as to the firm in question, and in the circumstances the Council have come to the conclusion not to institute proceedings under the Act, but they desire to draw the attention of members of the Institute and the profession generally to the matter, in the hope that any letter of a similar nature from a responsible firm may be promptly brought before the Council, together with full information as to the facts, in order to enable them to take such action as may be necessary.

The Ninth International Congress of Architects, Rome, 1911.

A preliminary notice is to hand of the Ninth International Congress of Architects to be held in Rome from the 2nd to the 10th October next, on the occasion of the National Festival to commemorate the Proclamation of the Kingdom of Italy. The Organising Committee consists of the Italian section of the Permanent Committee, of delegates of various Academies and Societies, of representatives of the press, and of architects nominated at the meeting of the 2nd July 1909 in conformity with the Statutes of the Permanent International Committee of Architects.

Members of the Congress are classified as "Full Members" and "Associate Members." "Full Members" are the special delegates of Governments, Academies, and Societies; all architects, and persons who follow the professions connected with architecture. Academies and Associations may be entered as "Full Members" and be represented by a delegate. "Associate Members" are the near relatives * of Full Members, and architectural students.

The subscription for Full Members is 25 lire (£1) and for Associate Members 15 lire (12*s.*).

Members of both classes have the same rights to reduced fares on the Italian railroads, to special reductions for apartments, to special cards of admission to the galleries, museums, and other institutions, and to attend the meetings of the Congress and visits.

The subjects for discussion will include the following:—

Subject A.—Reinforced Concrete: its employment in different countries and the opportunities for its application to artistic construction from the technical and decorative point of view.

Subject B.—The Question of an International Gazette of Architectural Bibliography.

Subject C.—The Exercise of the Profession by an Architect in Countries other than his own.

Subject D.—Observations on Modern Architecture.

* The original Italian means wives and children, but not parents or other relatives. It is understood that a Full Member is to have the privilege of nominating not more than two members of his family as Associate Members.

Subj ct E.—The Execution of the Architectural Work of Governments and other Public Bodies.

Subject F.—The Rights and Duties of an Architect in regard to his Client.

Subject G.—The Utility of an International Comparative Dictionary of Architectural Terms.

Extra Subject.—Foreign Academies at Rome: their history, the resulting studies and designs of the Students, and the influence exercised by these schools in the countries they represent.

All duly enrolled members have the right to send papers and resolutions for discussion on the subjects fixed by the programme. These must be sent to the Organising Committee at least four months before the opening of the Congress, and be drawn up in French.

The Organising Committee will if possible arrange for the issue before the opening of the Congress, of an abstract of the various papers and communications translated into several languages.

A Wren Evening at the Institute, Monday, 22nd May.

The evening of 22nd May will be devoted to a Paper by Mr. Lawrence Weaver, F.S.A. [*H.A.*], entitled "The Interleaved Heirloom Copy of the *Parentalia*, and some Notes on the Wrens." This Paper is to take the place of the one down in the Sessional Programme for reading by Mr. John M. Carrère on "The New York Public Library," which has been postponed till next Session. It may be mentioned that the copy of the *Parentalia* upon which Mr. Weaver is to discourse is being purchased by private subscription and will be formally presented to the Institute on the evening of the Paper. It is hoped to make of the occasion something in the nature of a small Wren Festival. In addition to the large number of lantern slides to be shown as illustrations to his Paper, Mr. Weaver is arranging for exhibition in the Meeting-room an exceptionally fine collection of photographs of Wren's work.

The Whitgift Hospital, Croydon.

At the Town Hall, Croydon, on 1st February, Mr. R. H. Bicknell, M.Inst.C.E., Local Government Board Inspector, held an inquiry into a petition on behalf of the Croydon Corporation for the issue of a Provisional Order to empower the County Council to put into force the powers of the Lands Clauses Acts with respect to the purchase of lands otherwise than by agreement, with reference to certain lands required for the widening and improvement of North End near the Whitgift Hospital.

Representatives were present of the Corporation of Croydon, H.M. Office of Works, the Whitgift Foundation, and the Whitgift Hospital Preservation Committee. The latter body opposed the scheme on the ground that it was incomplete and would ultimately lead to the destruction of the Whitgift Hospital. It was contended in support of the scheme that the widening of the road was imperative, and that it was not proposed to interfere with the hospital. Sir Frederick Edridge, a witness for the opposition, stated that the evidence in support of the scheme strengthened him in the opinion that the position of the hospital would be untenable if the scheme were carried out. If it were agreed to, the next application would be to take down the hospital.

Mr. W. Martin, summing up the views of the Whitgift Hospital Preservation Committee, remarked that on the one hand there was a section of the Corporation in favour of the demolition of the hospital, in order to have a wide street, to include among other things a double row of tram lines; while on the other hand there was a very powerful and vigorous portion of the population that knew of schemes by which the street could be widened, at the same time preserving the hospital. This was one of the priceless possessions that Croydonians had had handed down to them from past times, and in the ordinary way they looked to the County Council as being their guardians and trustees. These buildings included the Parish Church, the Archiepiscopal Palace, the Addiscombe College, and the Whitgift Foundation, and it seemed strange to him that the custodians should have been led to take such a position against their protectors, the County Council. Having reviewed the evidence, he asked the inspector to report in such a way as to be favourable to the preservation of the hospital and to leave no hope to those who wished to either mutilate or demolish the building.

Plans of the site, one showing a scheme for widening the road while preserving the hospital, appeared in the JOURNAL for 20th November 1909.

The late Colonel Eustace Balfour [*F.*]

Colonel Eustace Balfour [*Fellow*, elected 1892], who died last Tuesday in his fifty-seventh year, was the youngest brother of Mr. A. J. Balfour, the Conservative leader.

Born on June 8, 1854, the fifth and youngest son of Mr. James Maitland Balfour of Whittingehame and Lady Blanche Cecil, the second daughter of the second Marquis of Salisbury and a sister of the third Marquis, Eustace James Anthony Balfour was educated at Harrow and at Trinity College, Cambridge, where he graduated in 1877. As an undergraduate he took a keen interest in architecture, and on leaving Cambridge he became a student in the office of Mr. Basil Champneys, and began to practise on his own account in 1879. In 1885 he joined Mr. Thackeray Turner in partnership, and the association then entered into lasted until his death. In 1890 he was appointed Surveyor to the Grosvenor estates by the late Duke of Westminster. For his services as Colonel commanding the London Scottish corps of Volunteers he was accorded the distinction, very rare among

Volunteer officers, of being appointed Aide-de-Camp to King Edward. The following is quoted from the sympathetic appreciation which appeared in *The Times* of the 15th inst. :—

The supervision of a great London estate, involving a mass of routine and purely technical obligations, was too onerous to permit much original and creative work during Eustace Balfour's later years, while the freedom of initiative enjoyed by tenants on the Grosvenor property precluded the reflection of his artistic personality upon the modern and reconstructed residences of that estate. Where he was able to carry his own views into effect one is impressed by his appreciation of space allied to decoration, the central and governing feature of his work. He was one of the few men who instinctively realised the potentialities of an old house lacking architectural merits, and few were better able to evolve a decorous and dignified interior out of a commonplace room. His plasterwork was admirable, full of vigour and substance, and he was a warm partisan of robust cornices with bold and freely modelled detail; he used to say that no room was tolerable in which wall and ceiling formed an unrelieved rectangle. This love of well-placed decoration can be detected wherever Balfour was responsible *ab initio*, though in the well-known house erected in Park Lane for Mr. Beit it would appear that the architect was over-scrupulous, being reluctant to adorn the exterior with the deep-cut enrichments so brilliantly applied by Vulliamy to Dorchester House, close by. Balfour's great London experience probably made him fear the risk of any wealth of external incrustation which would harbour the impurities of our murky atmosphere, and he was therefore restrained, perhaps needlessly so, in dealing with this building, which, however, both for its elevation and for an easy sense of interior spaciousness, is a notable feature in London architecture. One might refer to a small block of residences in Brook Street and to the group of buildings at Balfour Place (off Park Lane) as further illustrating the architect's feeling for breadth and simplicity of surface.

St. Anselm's Church, Davies Street, W., associated with its school and clergy house, is probably the most complete and instructive example of Balfour's work. It is remarkable how this indifferent site, hemmed in by stables, model dwellings, and an electric power station, has been adapted to its special purpose. The church itself, though by no means large, impresses one with a feeling of airiness and freedom, with that spaciousness which an intuitive sense of proportion can alone create; and in combination with this invaluable asset we find his love of decoration displayed to its fullest extent. The west window is calm, sincere, and tactful—one of the best erected in London on the parish-church scale for many years; the little east windows, almost fanciful and certainly dramatic, convey an air of contrasted mystery which pervades the chancel. The whole building is singularly well fitted for the requirements of public worship, showing happy attention to the necessities of light, air, space, freedom of vision and access—all essential qualities which are too often ignored in modern ecclesiastical architecture. The latest, and not the least characteristic, of Balfour's architectural achievements was the rebuilding, in co-operation with Mr. Thackeray Turner, of the historic Scottish Church of Crown Court, Covent Garden. The architectural difficulties were great—a diminished site, and light available only from the east; but these were successfully overcome. The same notes of loftiness and space which characterise his other work are prominent here; and in moulding, organ screen, chancel stalls, Iona marble-communion table and font, and in the great roof of stalwart beams of English oak, the same severe but elegant simplicity is manifest. Eustace Balfour did a good deal of work at Whittingehame, the home of his family; Ampton Hall, near Bury St. Edmunds; Charlwood, Mr. Alfred Hoare's house at East Grinstead; and the chapel at Hatfield Hyde should also be mentioned. . . . .

Colonel Balfour's death causes a sad gap in the ranks of those who care for the things that matter in art and thought and practical life. Though he was not less talented than his distinguished brothers, his gifts were applied in other and perhaps less conspicuous directions; but they were those of force, originality, and even genius. A man of singularly attractive personality, he possessed a certain indefinable distinction of action, phrase, and bearing which impressed itself on all with whom he came in contact.

Colonel Balfour married in 1879 Lady Frances Campbell, fifth daughter of the eighth Duke of Argyll and a sister of the present Duke.

The late F. W. Roper [*A.*]

Frederick William Roper, *Associate*, elected 1863, who died on the 6th December last, aged seventy years, was the son of the late William Roper, builder, of Bath. He was born in 1840, and after completing his education was articled to the late James Wilson, F.S.A., architect, of Bath. On the expiration of his articles in 1862 he came to London and entered the office of the late S. S. Teulon, with whom he remained for some seven years. Starting in practice on his own account he took offices first in Pall Mall, then in Craig's Court, and finally at 9 Adam Street, Adelphi, where he remained during the greater part of his professional career. His practice was a general one, including both ecclesiastical and civil buildings. In 1873 he won in competition the Great Hunter Street Board School, Old Kent Road, one of the earliest schools erected for the London School Board. Following this he was successful in winning the competition for the Board School, Helen Street, Hove, for the Hove Board. The Rous Memorial Buildings at Newmarket, which consist of a hospital and almshouses arranged on a quadrangular plan, was also won in competition in 1879. The late King (then Prince of Wales), together with the Committee of the Jockey Club, was actively concerned in the promotion of this competition, and took a great interest in the work up to its final completion. A drawing of the buildings was exhibited in the Royal Academy in 1881. He also designed and carried out an important town house, 95 Piccadilly, a Renaissance building, with a large picture gallery in the rear. Among other buildings erected from his designs may be mentioned: Arundel Buildings, Shaftesbury Avenue; the Ilford Isolation Hospital; a mansion at Scarborough (a late Gothic design) for Mr.

G. L. Beeforth, J.P., and other houses on the South Cliff for the same client; Winkfield House lodge stables at Ascot; additions and alterations to the premises of the Royal Society for the Prevention of Cruelty to Animals in Jermyn Street, W.; Holy Trinity Church Schools, Chelsea. He also won in competition the Bonner Hill Schools, Kingston, and carried out the Richmond Road Schools and Ashford Schools for the same authority. Somewhat reserved in character, Mr. Roper was a man of wide culture, and possessed of a profound knowledge of his art. He was an admirable draughtsman, and his many tours on the Continent and in England had resulted in the production of a large number of graphic sketches and measured drawings.

ARCHITECTURAL EDUCATION.

Class Method or Correspondence Method.

10*th February* 1911.

To the Editor JOURNAL R.I.B.A.—

SIR,—A letter from Mr. W. S. Purchon upon this subject which appeared in the last issue of the JOURNAL is of considerable interest.

Holding the important position he does at Sheffield, it is naturally right that he should advocate the advantages of the class method of instruction. He puts the case very well, but he is obviously thinking of such a system as he adopts himself, where class work is combined with the setting of test questions and the personal correction of these by the instructor, who takes the trouble to give individual help to each student who requires it.

In this way the greatest defect of purely class instruction is obviated, this being that it encourages a student to listen to a lecture and then to go home and forget it, expecting to derive everything from his instructor and to do nothing for himself.

Mr. Purchon's method is not class instruction alone but approximates to studio instruction, than which it would be difficult to devise anything superior unless it be the Atelier method of teaching architecture which is adopted in France.

Personally I have abandoned class teaching for many years, largely on account of its inherent defects, and have substituted correspondence instruction even in the case of students who can easily come in to see me. In fact, it is these who obtain most benefit thereby. As Mr. Purchon says, most correspondence tutors like to teach personally those students who live near, but for myself I prefer that these should go through the regular correspondence course and come in and consult me over their difficulties as they arise instead of writing, as those resident at a distance must do. Individual personal instruction is very rarely necessary, and I think that, like class teaching, it tends to either encourage laziness, or on the other hand that it may approach too nearly to cramming. In any case it is necessarily expensive, as the whole of the instructor's time has to be given to an individual. This is, to a less extent, one of the defects of correspondence tuition, for if it is properly done by means of test papers, it means that they must be carefully set so as to be both comprehensive and thorough, and that the replies must be gone through with extreme care, each student being dealt with separately and his answers being annotated with regard to the special idiosyncrasies of the individual, which have to be gathered from them.

If the work is attempted wholesale and cheaply, by correspondence "schools," which issue general notes to students and return their replies to questions with printed model answers appended, but few real corrections, then it is questionable whether there is much value in the system. It combines superficial cramming with the direct encouragement of personal slackness.

There are so many architectural students located where they cannot obtain the advantages of those resident in the large centres, that I have often wondered at correspondence tuition being left to unofficial private tutors like myself.

It is obvious that these students have to be reached, and that, if they cannot come to the instruction, the instruction must be taken to them. Even the most advanced work can be done by correspondence as has been shown in America where a great deal of work of the very highest quality is done in this way. In England, the few of us who teach by correspondence do it in order to earn a living, and are consequently restricted to preparing students for the Institute and other similar examinations, there being an insufficient number requiring any other form of instruction to render its private organisation possible.

It is to be borne in mind in this connection that correspondence instruction is necessarily to a large extent individual and consequently must be comparatively costly, while the provincial students, who need it most, are just those who can least afford any great expenditure. It is also much more rare to find the instructor who is capable of giving real help through the post than one who can lecture to a class and assist his pupils while he has them near him. I may say that in the experience of twenty-seven years I have met with very few who have been able to assist me when I have wanted help, and I fully agree with Mr. Purchon when he says at the end of his letter that the correspondence method is perhaps the most satisfactory in the hands of men whose qualifications are known. I should, however, say that the word "qualification" needs limitation, the qualification to teach *by correspondence* being in this matter all important.

Yours faithfully,

G. A. T. MIDDLETON.

LEGAL.

Dry-Rot in Floors: Architect's Liability.

LEICESTER BOARD OF GUARDIANS *v.* TROLLOPE.

This was an action heard before Mr. Justice Channell in the King's Bench Division of the High Court on the 23rd, 24th, and 25th January. The plaintiffs, the Leicester Board of Guardians, sued the defendant, Mr. John E. Trollope, surviving partner of the firm of Messrs. Giles, Gough, and Trollope, for negligence as architect to the plaintiffs, and for damages for a breach of agreement to carry out work in connection with the North Evington Poor Law Infirmary.

Mr. Hugo Young, K.C., and Mr. Alex. Neilson appeared for the plaintiffs; and Mr. E. Pollock, K.C., and Mr. C. B. Marriott, for the defendant. Mr. McCurdy, M.P., watched the case on behalf of the builders, Messrs. W. Moss & Sons, Ltd.

The building in question, the North Evington Infirmary, was begun in September 1902, was completed in 1905, and the final certificate was given to the builders in 1906. Over £100,000 had been spent on the building, which extended over a very large area. Counsel for the plaintiffs in his opening statement said it was not until February 1908 that anything wrong was discovered. When the subject was investigated, it was found that instead of there being beneath the floor a layer of concrete 4 inches thick, and the joists laid on this and bedded round with a finer concrete for 2 inches, all over the building the builders had taken wooden pegs (thousands of them), driven these pegs into the ground, and, having thus got a level plane, had nailed the joists to the top of the pegs and filled in the concrete at one operation. A direct communication with the ground was left through the pegs, and each peg acted as a pipe for drawing up moisture; the system consequently destroyed the whole purpose for which the concrete was laid down; the flooring got into such a state that it had to be taken up. An agreement was entered into to the effect that the Guardians would not proceed against Mr. Trollope, and that he should rectify the mischief. Mr. Trollope proceeded to do the work through some other contractor than Messrs. Moss, and one whole ward, and part of another, was dealt with. The defendant then stopped the work. If he had continued there would have been no trouble about the matter; but he supposed Mr. Trollope found that it was a very expensive business, and that it was not a question of mere repair, but that the whole thing had to be done again. The work had since been done under the direction of another architect, Mr. Sawday, and the amount that was claimed in that respect was as near as possible about £2,000. The plaintiffs claimed first of all for negligence in supervision; secondly, for negligence in giving a final certificate which exempted Messrs. Moss, the contractors. They also claimed for breach of agreement, if not sued, to do the work of repair.

Mr. Pollock, for the defence, submitted that the defendant was not liable. The undisputed fact on which the case was based was that the work was done in a manner which was not in accordance with the specification, and that "it was done by the complicity and fraud of the clerk of the works acting with the builder." By doing it in that manner counsel said he should show there was a saving of about £426. There was a motive for the fraud, and it would be easy to prove it to his lordship. How was it done? It was done by scamping the amount of concrete put in, and not levelling the ground on which the concrete was laid. The motive was to save money, and the motive carried out into acts did save money, with the result that the builder was better off. The architects were lulled into security because throughout the whole of the time the work was going on the clerk of the works fulfilled his duties and made a number of complaints about various matters. He submitted that on the document as they stood they had concealed fraud on the part of the clerk of the works, as well as a breach of his duty on his own knowledge. What was the degree of liability on the architect? If he was not to be liable for every brick, was he to be liable for a fraud which was concealed from him by the complicity of two persons working together? or was he to trust to the clerk of the works? The clerk being constantly on the ground made reports from time to time, and in this case visited the architects in London. He submitted that the offer made by Mr. Trollope to complete the work was made without prejudice, and on the basis of an honourable understanding, and was never intended to form the basis of a legal liability which could be sued upon. What was being recorded there was a matter of leave and licence to Mr. Trollope, and not a matter which was to end in a contract between the parties on either side. The Guardians were seeking to set up a legal liability against Mr. Trollope, the consideration of which was an agreement or a doubtful liability which arose under his contract. As the matter stood at present the Guardians were able to sue Mr. Trollope upon the agreement, and supposing circumstances had arisen in which it would be necessary for him to enforce the agreement as against them, the agreement could not have been enforced at all. He argued that Mr. Trollope never intended to make a bargain, and he also contended that the Guardians never intended to make a contract, because, if they had, they would have used their seal.

Mr. Edwin T. Hall and Mr. C. Fitzroy Doll gave evidence on behalf of the defendant as to the relative duties of architect and clerk of works.

Further details of the case are sufficiently given in his Lordship's judgment, a verbatim report of which is appended.

Mr. Justice Channell gave judgment as follows: In this case I am sorry to find that the defendant is under a serious liability in respect of a matter in which, undoubtedly, he is not personally greatly in default, if at all. The plaintiffs have gone out of their way to a certain extent to say that they make no imputations at all upon his good faith or anything of that kind. If I may add to that, I was much impressed by the candid way in which he gave his evidence in the witness-box. There were many little things in which, if he was at all inclined to stretch matters in his own favour, he could have given evidence in his own behalf much more strongly than he did, but he was an extremely candid witness. I think he deserves the credit that was given to him in a newspaper report which was published with his own sanction, and, in that respect, of course, it is not quite the same thing as if it had not been. One is sorry to give judgment against him; but I think the facts are extremely clear.

Now, here is a building contract of very much the usual character; it had clauses in it of the usual character. I do not find anything in it which differs very much from an ordinary building contract. It contemplates a clerk of the works to be appointed, and it mentions a clerk of the works as a perfectly known person, holding an office which is well understood. It does not go out of its way to define him; it says certain things that he may do and about his position, but it treats a clerk of the works as it treats an architect, as a perfectly well-known person with known functions and duties. Then there is an agreement between the plaintiffs and the defendant and his then partner, who has, unfortunately, died since, and that is the usual agreement. The only thing that is special in it is that the architects agreed to take substantially less than the usual remuneration which they were to have. That is the only important matter, but it has ordinary clauses in it.

Under those circumstances the building was erected, and some three or four years after it was completed it was discovered that all the lower floor timber—the wood in the lower part of the building—was very badly affected with dry rot. Investigation took place, and it was discovered that the design—I daresay an ordinary design—I was going to say the special design, but by that I do not mean there was anything remarkable in any way, but the design that was intended to prevent the occurrence of dry rot had not been complied with. Somebody was undoubtedly to blame. The builder was to blame; he certainly had not performed his contract; he had got no authority from the architect to deviate from it, and that authority was the only thing which would have justified him in deviating from it. Therefore the builder was undoubtedly to blame; but there was this difficulty in the way of suing him: that he got the architect's certificate of completion, and that the contract said, practically, that if he got the architect's certificate of completion and a period of nine months elapsed, during which he was to be responsible, he was not to be responsible afterwards. Therefore there was that difficulty in the way of suing the builder. It is not my business, and I suppose I ought to avoid saying anything that will prejudice any claim that anybody may hereafter think fit to bring against the builder, but, as part of the history of this case, one cannot help saying that, if it is the fact, as appears to be the case, and as is contended by Mr. Pollock certainly was the case, that this was a fraud and collusion between the clerk of the works and the builder, why it seems to me that the builder would not have been entitled to rely upon that certificate, and that therefore he might in all probability have been sued.

Then the Board of Guardians, perhaps not unnaturally, said to the architect: Well, you ought to have seen to this, and we make a claim against you personally. They made that claim most positively; there is no doubt about it. There were some interviews which were without prejudice—one, at any rate, was without prejudice. I neither do know, nor do I desire to know, exactly what passed at it, but there then came a correspondence and the present defendant took this view. It was in a letter by his solicitors, but I think there can be no doubt it was absolutely by his desire, and probably at his suggestion, that the proposal was made; although he repudiated all liability, for his own credit, and in order that nobody should have any sort of complaint against him with reference to an important work of this kind, he said that he would make the matter good. Upon that the Board of Guardians omitted to take any proceedings which they were threatening. I cannot entertain the slightest doubt, subject only to this question of seal, which I will deal with quite shortly, that that was a binding agreement. It has all the elements of it. There was the forbearance. It is true, I think, that mere forbearance, not at the request of the other party, would not be a consideration; it is forbearance at the request of the other party. The letters that passed are quite clearly a request not to take the proceedings. They are written in reference to that very matter, and I cannot therefore entertain any doubt of that being a binding agreement, subject only to the question of seal which I will deal with in a very few words now. In the course of that correspondence, after possibly an agreement had been come to, a further term was proposed by the solicitor for the defendants. "Although we do this, if we mean to claim over against the builders, of course you will give us every assistance to do that." The Board of Guardians very properly said they would. That is part of the agreement on their part. It may be that the agreement was concluded before, and it may be they might have said if they liked: "We have not promised to do all that, and we are not going to reopen the matter because it is already concluded"; but when an agreement is just made and has arrived possibly at the stage at which they might say it was concluded, if parties consent to reopen the matter and to add a further term, it seems to me they do reopen the matter, and the agreement is the agreement they make when they have added those terms to it, and that they cannot then go back and say, "Before we agreed to that there was already a concluded agreement." It is all one agreement, and they assented to it as one agreement. The result is it contains a term which has not yet been completely executed because the time has not yet arrived. Therefore one cannot quite get out of the difficulty about a seal on the ground that it is an executed contract on one side which in most cases I think is held now to be sufficient. Therefore it gave me a difficulty. I was prepared yesterday to decide this case upon the question that that agreement was sufficient. Amongst other things I may say I thought it was a very clear ground, and I desired rather to decide it on that ground than on the ground that this gentleman had omitted a duty and therefore was chargeable with negligence. I thought it was better for him that it should go through on the ground that he had voluntarily agreed to pay the money. He had credit given to him, and accepted that credit, in a very eulogistic report, which was published after being approved by his solicitors, and I thought that it was better it should stand in this way, especially as I saw that it was almost inevitable that I should have to decide the other question—if I did decide it at all—against him. However, this point about the seal was put forward, and it did create some difficulty in my mind. Therefore I thought, in view of the possibility of the case going to the Court of Appeal on that, that I ought to hear and decide the whole question. Now, on that matter as well, Mr. Hugo Young has now quoted cases which I think appear to me, as far as I can see, to remove the difficulty. I think, therefore, that the decision might go against the defendant upon the ground of that agreement, but I have had to hear the whole case and to give my judgment upon it, and I must do so.

Now, as to that, the defence is that this was the fault of the clerk of the works. In one sense, no doubt, it was the fault of the clerk of the works. Whatever the duty of the defendant and his late partner was, it clearly was the duty of the clerk of the works to call attention to this. And he seems to have done much more; he seems to have connived at it and concealed it, so that there is no doubt it was the fault of the clerk of the works. But does that relieve the defendant? I think there is no difficulty in seeing what are the respective functions and duties of an architect and of a clerk of the works. I had a very clear idea of it myself, and the witnesses who have been called for the defendant—two gentlemen of position in the profession—and the defendant himself, who is a gentleman of position in the profession, all practically agree, but they leave the matter open with the difficulty still. They all agree that the clerk of the works has to see after matters of detail that the architect is not expected—in this case we know he was not expected—I do not lay any stress on the conversation that he was expected to be there at least once a month or something of that sort—that does not alter the duties of the parties, but everybody knows an architect cannot be there all the time, and everybody knows the clerk of the works is appointed to protect the interests of the employer against the builder, mainly

because the architect cannot be there. He has to look after the matter of detail. The same gentlemen who tell us that, tell us also that the architect is responsible to see that his design is carried out. That fairly indicates what the respective duties of each are, but it leaves one in each case to say whether the matter complained of is a matter of detail or a matter of seeing whether the design is complied with.

The matter in this case is a very important matter in reference to the building. It is not exactly the foundations of the main building. I do not know what was under the weight of the walls. I suppose there was concrete or something there. We are not concerned with that. This is the concrete under the floors, and I suppose when you put floors on damp earth any man, even one not very much skilled in such matters, must know that you have got to make protection against the damp. Here a protection was devised—I do not say it is anything at all uncommon, but it is an essential part of the design. Here the architect admitted that they took no steps to find out whether that was carried out or whether it was not. It is not a case in which they inquired even of the clerk of the works, in which they pointed out to the clerk of the works : "This is a very important matter ; we hope you will see that this is done properly," or anything of the kind. Nothing of the kind took place. It is a very large area of building. Although in some parts it was better done than in others —in some parts apparently the concrete was fairly good, the part which was first investigated, and there was only this question of the pegs, but over the greater part of it the concrete was all wrong. If in this case the architect had taken steps to see that the first block of buildings was done all right, and then in the next block of buildings he had left it to the clerk of the works with instructions to see that it was done in the second block in the same way as it was done in the first, I should then have had some doubt whether he would have been liable if the clerk of the works had neglected that and allowed it to be done in a different way in the other part. But here there was nothing done at all to see that the design was complied with, and it was not in fact complied with. It does not seem to me that it excuses the architect from seeing that his design is complied with, that he thought that the clerk of the works would be sure to see that it was all right, and consequently it seems to me that this is not a matter of detail which it was justifiable to leave to the clerk of the works. It may be it was rather natural that he should do it, and that therefore it is not one of the cases where one attaches very serious blame and says : Here is a gentleman who was incompetent in his profession, or something of that sort ; there is no ground for thinking anything of that kind here ; but in my judgment there was an oversight, an omission to do that which it was his duty to do—namely, to see that this design in this important part of it was in fact carried out, and nothing more.

Now it is said that the clerk of the works is the servant of the plaintiffs, and therefore the defendant is excused. If a party to a contract prevents the other party from performing his contract, of course that is an answer ; but it cannot possibly be put that this conduct of the clerk of the works, even assuming him to be, as for certain purposes he certainly was, the servant of the plaintiffs, amounts to the plaintiffs, through their servant, preventing the defendants from performing their contract. If they did not do that the conduct of the plaintiffs is not an answer to the action.

Is it a ground of counterclaim ? I must say I think it is not, on the ground I put just now. An employer is not liable for the fraud and misconduct of his servant, if the servant does it in his own interest and not in the supposed interest of his employer. If he commits a fraud in the course of the execution of his duties, and within the scope of his duties, and does it in the supposed interest of the employer, although it is not in the interest of the employer, then the employer is liable ; but if the servant does it on his own account, and for his own purposes, the employer is not liable. In this case it is impossible to state that the clerk of the works did it in the interest of the employer. Consequently it is not a ground of counterclaim.

Without going further into the matter, it does seem to me that this is not a matter of detail, that it is a matter of an essential part of the design of the building which the defendant and his late partner—I daresay it was his late partner quite as much as the defendant—omitted to see was done, which was not done, and therefore I think upon the main question I must hold him responsible.

I think, as I have said before, that even if he had not been responsible on that he would have been responsible on the special contract. In either view, therefore, the defendant is liable.

I have said I am sorry that it is so because it is undoubtedly a serious liability, and the defendant has really behaved extremely well in the matter, with the possible doubt that, having most handsomely agreed to do the whole work, when he found it was more than he anticipated, he tried to back out of the agreement. With that single exception, merely succumbing to a natural temptation, he has behaved as well as anybody could do in the matter, and he has given his evidence in a way to command my respect. Nevertheless, I think he is liable in law to this claim, and I must give judgment against him.

The question of the amount was ordered to stand over with liberty to apply. Costs of claim and counterclaim were given to the plaintiffs.

MINUTES. VIII.

At the Eighth General Meeting (Ordinary) of the Session 1910-11, held Monday, 13th February 1911, at 8 P.M.—Mr. Leonard Stokes, *President*, in the Chair ; entered in the attendance-book the names of 34 Fellows (including 14 members of the Council), 41 Associates (including 2 Members of the Council), 19 Licentiates, 4 Students, and a large number of visitors ; the Minutes of the Meeting held 30th January, 1911, having been published in the JOURNAL, were taken as read, and signed as correct.

The Hon. Secretary announced the decease of Alexander Cullen, *Fellow*, elected 1898.

The following gentlemen attending for the first time since their election were formally admitted by the Chairman—viz. : William Henry Gunton, *Associate* ; Stanley A. Heaps, Charles H. Freeman, Theodore Gregg, Edwin L. Lunn, Sidney Jupp, A. J. Clifford Ewen, *Licentiates*.

Mr. E. A. Rickards [*F.*] and Paul Waterhouse [*F.*] having read Papers on THE ARTISTIC DEVELOPMENT OF LONDON, a discussion ensued, and a vote of thanks, moved by Earl Beauchamp, K.C.M.G., First Commissioner of H.M. Works, and seconded by Mr. W. Whitaker Thompson, Chairman of the London County Council, was passed to the authors by acclamation.

The proceedings closed and the meeting separated at 10.

The Church of the Holy Sepulchre, Jerusalem.—Acknowledgment was accidentally omitted in the last number of the JOURNAL of the courtesy of Messrs. J. & J. Leighton, of 40 Brewer Street, Golden Square, in lending the blocks of the reproductions of the earliest woodcut representations of the Church of the Holy Sepulchre, Jerusalem, which illustrated Mr. H. W. Davies' interesting communication on the subject (pp. 240, 241).

Yours very faithfully
Arthur J. Evans.

ARTHUR JOHN EVANS, D.Litt., F.R.S., *Hon. Associate R.I.B.A.*
ROYAL GOLD MEDALLIST 1909

View of Part of West Wall of Palace, Knossos, from West Porch.

RESTORED SHRINE ON CENTRAL COURT OF THE PALACE OF KNOSSOS.

By Arthur J. Evans, D.Litt., F.R.S. [*Hon.A.*]

IN the area immediately west of the great northern entrance passage of the Palace of Knossos had been found already in 1900 a heap of fresco fragments that originally belonged to one or more upper halls and chambers in that quarter.

Among these were a series of fragments to which, from the diminutive scale in which the details were rendered, the general name of the "Miniature Frescoes" has been conveniently applied. A principal feature of these paintings is the appearance of large crowds of people of both sexes grouped about the walls, courts, and terraces of an extensive building which may be reasonably supposed to represent the Palace Sanctuary of Knossos itself.

The frescoes were unfortunately broken into isolated bits, and a good deal was evidently wanting. It was only, indeed, as the result of prolonged consideration of the problems involved that I at last conceived the possibility of reconstructing the general scheme of two panels. Both of these have clearly a religious intent. One panel, with which we are less concerned on the present occasion, represents a crowd of spectators seated in a walled enclosure with olive trees—evidently the *temenos* of a sacred grove—overlooking an orgiastic dance, such as were held in honour of the Minoan Mother-Goddess. The centre of the other design is a pillar shrine of the type already made familiar by the gold plates from Mycenæ and by certain signet rings and seal impressions. This has the appearance of rising above the borders of a court which is thronged with people.

The façade of this shrine, as of others of the class, shows a raised central cell and two lower wings. In the present case the central compartment contains two columns and the wings

a single column each. Sufficient fragments of the shrine were pieced together shortly after their excavation in 1900 to render possible an exact restoration of the lower part, including the two wings. The upper part of the central cell, however, was still wanting, and in my monograph on *Mycenæan Tree and Pillar Cult*,* published in 1901, I therefore attempted to complete the façade by placing over it an entablature copied from that visible on the two wings, the middle space of which was occupied by a chequer design of black and white.

It was not till some years later that a fragment of painted plaster, which had been set aside in a wrong connexion, was recognised as belonging to the top of the central cell and was found to supply the missing capital of one of its columns and to complete the other. By the addition of this piece it has been possible to recover the true original form of the upper part of the cell, and thus to correct my former restoration in an important particular. This restoration is shown in fig. 1, from a drawing by Monsieur E. Gilliéron.

It will be seen from this that in the original design the entablature of the central cell is distinguished from those of the side wings by showing, above the architrave and immediately over the two capitals, what appear to be the round ends of beams, flanked on either side by square beam-ends.

That what was actually visible on the façade of the building may have been rather painted discs on a plaster face than actual beam-ends is probable enough. But these may none the less be reasonably taken to have a real structural significance, and to indicate that four round beams ran back from the architrave and, together with the square beams on either side, formed the roof beams of the central *cella*. On the other hand, the absence of this structural feature from the entablature of the two wings affords a strong suggestion that they were of wholly different character. In other words, they were either entirely open colonnades or backed by a quite shallow area behind. Thus the building with which we have to deal should be regarded as one with a recessed central *cella* flanked by two more or less open wings.

The newly recognised fragment also shows that the top of the *cella*, as well as that of the two wings, was surmounted by a row of sacral ox-horns such as appear in front or beside the columns below, though of smaller dimensions. These "horns of consecration" are constantly found in the Minoan shrines, and were usually made of painted plaster, though they are sometimes of stone or terra-cotta. Four such horns, preserved in whole or part, appear above the central part of the sanctuary; but though they do not sufficiently fill the available space, there would not be room for an outer pair on either side, unless we are to imagine that the coping of the *cella* somewhat stepped forward on either side. That this was the case, however, is rendered probable from a number of small representations of Minoan and Mycenæan shrines known to us from signet seals and their impressions. The projection of the upper member of the entablature is, for instance, clearly visible in the small shrine that appears in connexion with a lion-guarded Goddess on a series of seal impressions found in a sanctuary on the Central Court of the Knossian palace, to be described below. In view of these analogies, the coping of the *cella* is made to step forward in the restored drawing of the façade, and place is thus obtained for an extra pair of horns on either side.

The horns above are smaller than those in front of the columns, and, judging from the latter and the female figures seated immediately to the right of the sanctuary,† it would appear that the height of the central cell, including the white *podium* above which it rises, would not have been more than about nine feet; while the whole width of the façade would have approached twelve. It is possible, indeed, that the human figures were somewhat exaggerated in proportion to the actual scale of the building; but, even allowing for this, it is evident it must have been

* *Mycenæan Tree and Pillar Worship*, pp. 96, 97 (*J. H. S.*, vol. xx. pp. 194, 195).

† Other figures from the same panel are on a somewhat smaller scale, but it is best to judge by those in closest association with the shrine itself.

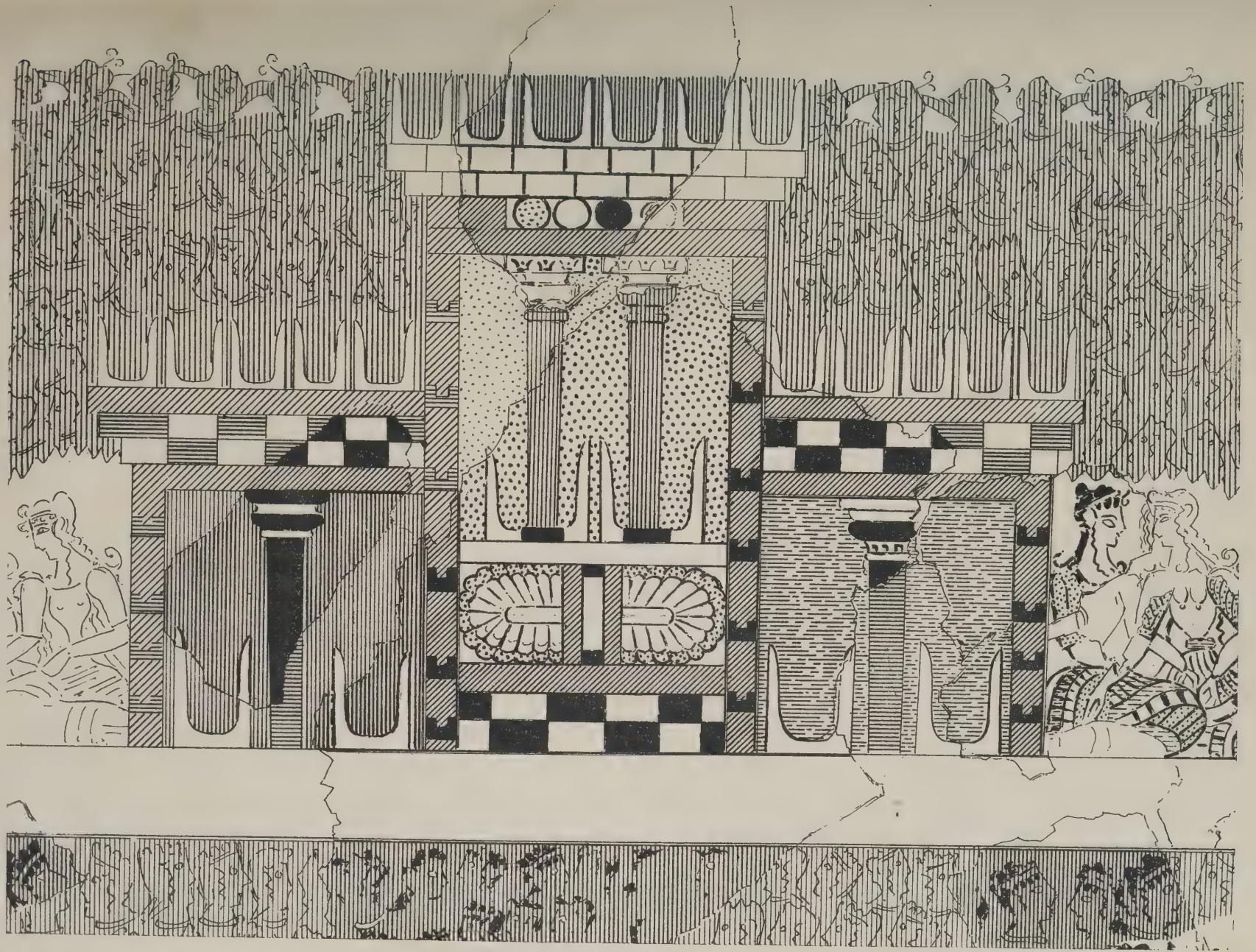


FIG. 1.—SMALL PALACE SHRINE ON A COURT
FROM CENTRE OF "MINIATURE FRESCO," KNOSSOS

of very small size. These exiguous dimensions are quite consistent with the evidence as to the size of the Minoan and Mycenæan shrines supplied from other sources.

As already pointed out in my earlier account of this design, the little sanctuary here delineated must have been largely composed of timber and painted plaster. Like the roundels visible on the part of the entablature of the central cell now recovered, the chequer work which occupies the same place on the wings should be rather regarded as representing a face of painted plaster than actual masonry. The columns and capitals were of wood, distinctively coloured in each case by a coating of tinted stucco. Elsewhere the wooden part of the structure is indicated by an orange-brown colour ; while the suggestion of the ends of side beams mortised into the posts forming the uprights of the frame is given in black.

The wooden framework is especially interesting in connexion with what appears to have been a decorative relief in front of the lower parts of the *cella*. This consists of two elongated half-rosettes, and the white ground of this with its blue insets, as well as the design, at once recalls the alabaster " frieze " found in the vestibule of the palace at Tiryns with its blue glass (*κύανος χυτός*) inlaying.* In the present case the red veins indicate some further colouring or inlaying. As I have elsewhere pointed out, the alabaster " triglyphs " which locked together the slabs of the Tirynthian frieze are here, as regards at least the two outermost, replaced by wooden bars—distinguished by their brown colour—which no doubt represent the earlier arrangement. That the prototypes of the Doric metopes were of wood is indeed sufficiently shown by the *guttæ* below them, which represent the original wooden pegs that compacted the fabric.

The structural analogies presented by the Palace at Knossos enable us to recognise in the white *podium* on which the whole building rests, a stone basis either of gypsum or limestone blocks. The white band forming the sill of the central opening beneath the columns answers to the limestone slab usual in such positions, and the masonry of the coping at the top must also be regarded as having consisted of limestone blocks. In neither of these positions would gypsum be used, as it weathers too quickly. When this material was used as an outside facing, as in the case of the orthostats that form the base of the west wall at Knossos, it was originally protected by a thick cement, of which some traces may be detected. This coating would have obscured the divisions between the separate blocks, and may account for the fact that the low basis line of white material on which the little temple stands, and which extends beyond it on either side, shows no such divisions.

The appearance of this low line of wall and the great crowds of people of both sexes collected within it suggested from the first that we had here the delineation of an existing shrine the façade of which overlooked one of the palace courts. From numerous indications that have since come to light it looks as if small chapels of this kind had been constructed in various parts of the building, which was itself as much a sanctuary as a palace. Noteworthy evidence of the existence of a similar pillar shrine, in connexion apparently with a large upper hall, came out in the northernmost section of the West Court. Here, moreover, were found parts of a small frieze of purple gypsum, showing strong decorative analogies with that depicted on the temple fresco. On the present occasion, however, it is my object to direct special attention to some very interesting structural remains on the eastern border of the Central Court which seem to give us the complete ground-plan of one of these Minoan pillar shrines.

The religious character of this palace region, of which the two Pillar Rooms form the central feature, had been noted from an early period of the excavations. The Pillar Rooms themselves, as is now made clear by a series of parallels in other Minoan buildings, were certainly bound up

* See Dörpfeld in Schliemann's *Tiryns*, p. 284 *seqq.* and Pl. iv., and Perrot and Chipiez, *L'Art &c.*, vol. vi. p. 698 *seqq.* Also Fyfe, "Painted Plaster Decoration at Knossos, with special reference to the Architectural Schemes " [JOURNAL R.I.B.A., 20th Dec. 1902].

with some sacral usage, and may be regarded as the "crypts" of upper halls devoted to religious purposes. The double axe, repeated in this case on the blocks of the pillars, had probably here a sanctifying significance as the special emblem of the great Minoan Goddess. The immediately adjoining area, the Room of the Stone Vases, contained "rhytons" and other vessels clearly intended for ritual purposes *; and in the same way a similar phenomenon was associated with the Pillar Room of the "Little Palace" on the west. That the special sanctity attaching to this quarter of the palace went back to the earliest period of its history was further shown by the discovery in 1903 in a small chamber, to the north of that in which the large column bases were found, of two capacious stone repositories containing the faïence figures of the snake Goddess and her votaries and other accessories of what seems to have been an important shrine belonging to the First Palace Period.

There is, moreover, an interesting indication that the religious continuity was not broken at this spot when, about the beginning of the Late Minoan Age, the palace was remodelled. The old "Temple Repositories" were filled in and covered by the later pavement, but immediately over them were constructed two smaller cists so as to preserve the religious tradition.

At this epoch—probably about 1600 B.C.—the front line of the western wing of the palace was carried outwards about two and a half metres so as slightly to encroach on the original borders of the Central Court, a small space being thus left between the older wall and the new line, which at this point has the appearance of a low stylobate.

The result of this extension was to create, immediately west of the chamber containing the Temple Repositories, an elongated space representing a section of the interval between the earlier and later boundary lines on this side (see plan, fig. 2), and it was on the cement floor of this that a series of very interesting clay seal impressions were found in the second year of excavation. These sealings, which seem to have been broken from documents of a perishable nature, were in a very fragmentary condition; but, supplementing one with another, I was able to reconstitute from them an almost complete design exhibiting a Goddess—the Minoan Rhea—on a peak between lion supporters, while on one side is an adoring male figure and on the other a pillar shrine with two pairs of sacral horns. The Goddess holds out a staff-like object, the upper end of which, however, is incomplete, towards her votary. Obviously it is the shaft of a weapon, and there is a high probability that it represents her sacred double axe.

In my Annual Report † of the excavations I observed that the depth of the space in which these relics were found "is too shallow for it to have been an ordinary room," and that "on the other hand, the finely cut limestone blocks by which it is flanked and partly faced, as well as its conspicuous position on the great court, indicate that there was here an important structure." I even ventured to suggest that we might have here "a clue to the site of the miniature temple depicted on the fresco." Since this was written some wholly unexpected pieces of evidence have come out which corroborate this conclusion in so far as there seems to have been here a pillar shrine of the same general kind as that of the wall-painting.

On the upper surface of the section of the stylobate between the oblong recess that contained the sealings and the later border of the Central Court successive seasons' rains brought out more and more clearly two circular impressions, if such a term may be applied to them, evidently marking the places where column bases had stood. Separated, again, from these by an interval of about equal distance two further impressions of a similar kind made themselves apparent, showing that at this point too a pair of columns had once stood.

In view of this symmetrical disposition, the question naturally suggested itself: Might not these pairs of columns correspond with the two wings of a small pillar shrine, like that of the Miniature Fresco, facing this side of the Central Court? A further circumstance greatly

* See tail-piece, p. 295.

† *Knossos Report*, 1901, p. 28.

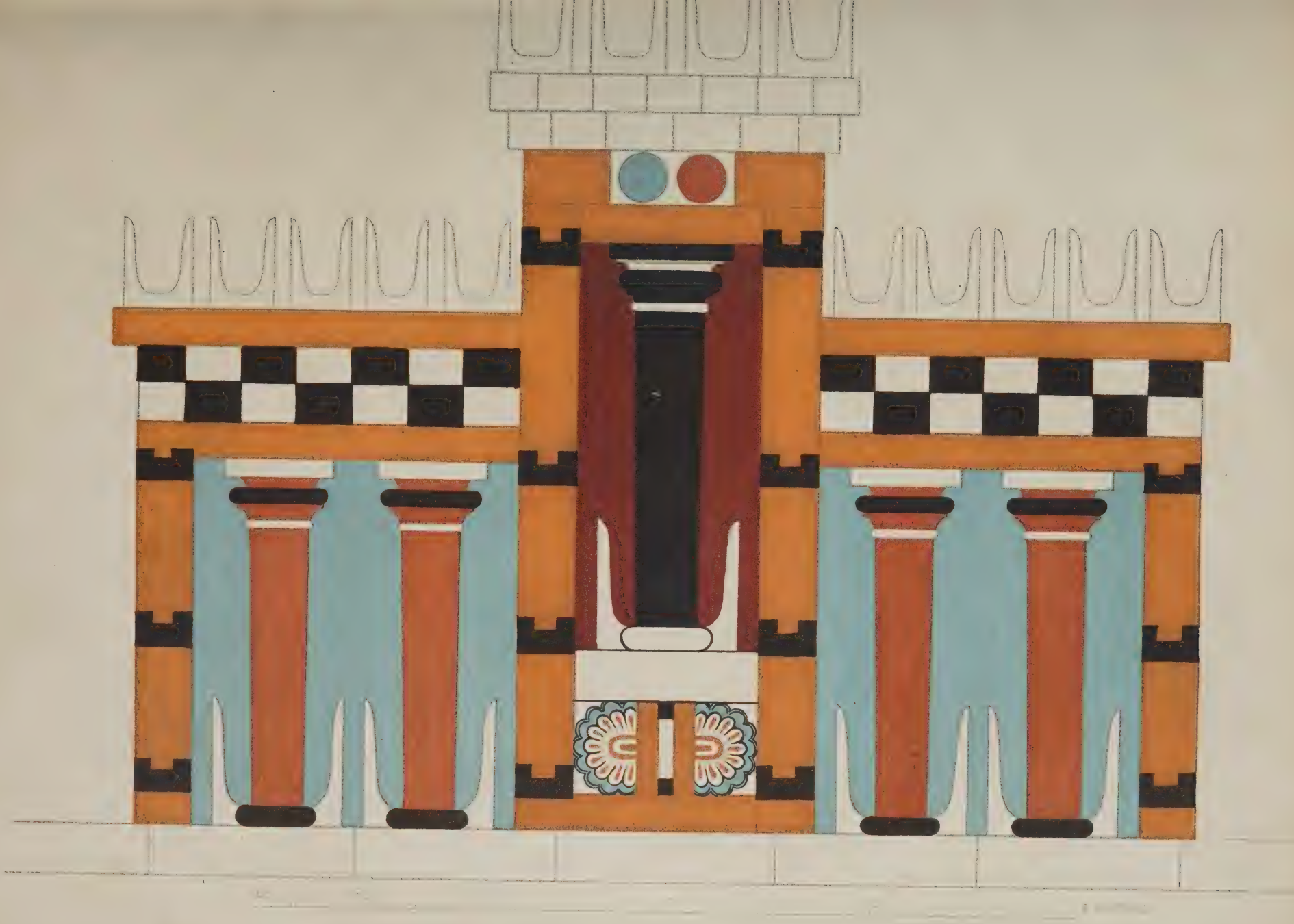


Fig. 2.—FAÇADE OF SHRINE ON CENTRAL COURT AS RESTORED
ON THE ANALOGY OF "MINIATURE FRESCO"

OF THE
UNIVERSITY OF ILLINOIS

strengthened the probability of this conclusion. Exactly corresponding with the gap between the two pairs of bases where, *ex hypothesi*, the central cell of the pillar shrine would have risen to a higher level, there was a rectangular recess in the wall of the adjoining "Room of the Column Bases" which had puzzled us from the beginning of the excavation. It was fronted by stone slabs, grooved for parts of a wooden superstructure, and looked almost like the lower part of a

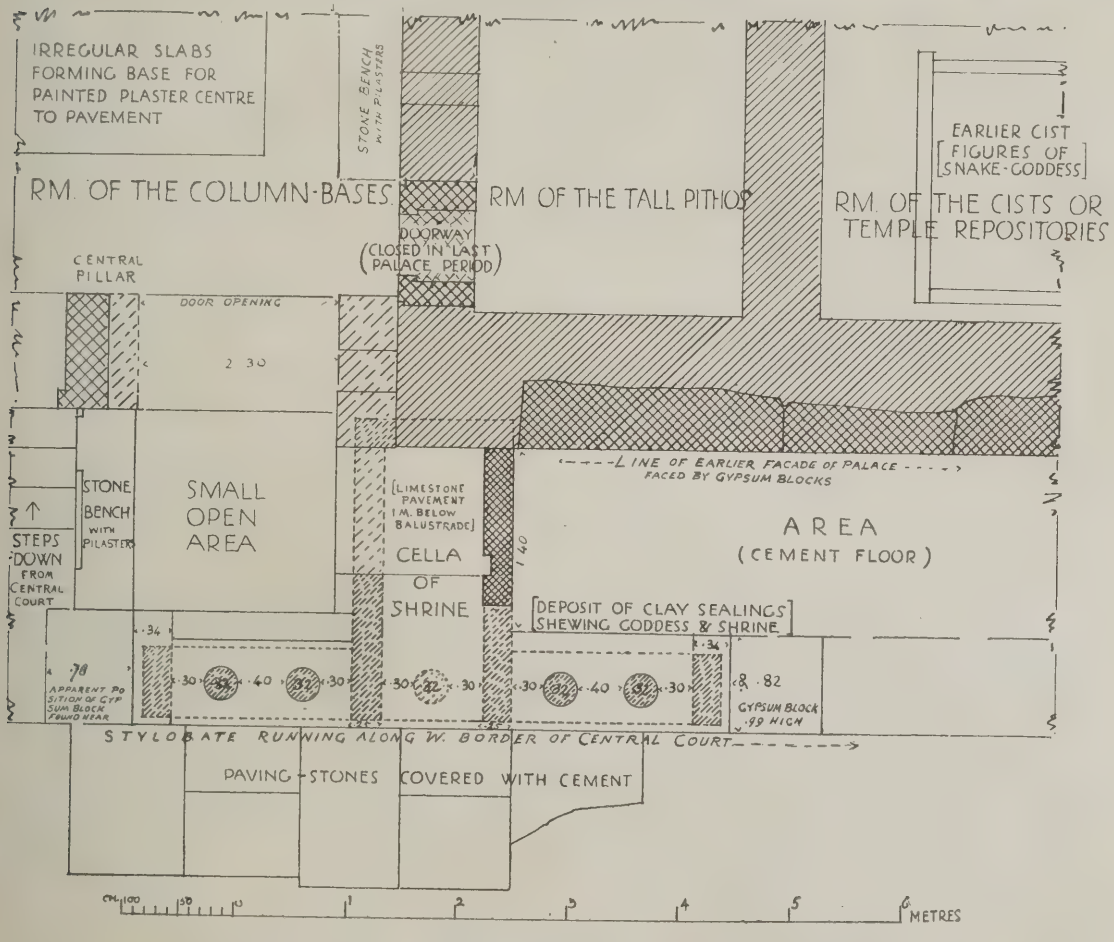


FIG. 2.—PLAN OF SMALL PALACE SHRINE ON CENTRAL COURT AND CONTIGUOUS AREA.

square ingle-nook and chimney. On the floor of this nook had been found remains of a chest containing clay documents. In view of the relation of this to the traces on the façade the explanation was now clear. This recess was really the lower compartment of the central cell of the sanctuary, with a small chamber above representing the visible shrine of the goddess, and which, on the side of the court, would have shown an opening with a columnar support accompanied by the usual "horns of consecration."

The careful measurements taken for me by Mr. Theodore Fyfe (see plan, fig. 2) show that there was room for a central structure of this kind between the two conjectural wings of the façade indicated by the traces of the pairs of column bases. From the space available, however, it appears that, unlike the pillar shrine of the "Miniature Fresco," but in this respect resembling the small gold shrines from Mycenæ and certain representations on sets and sealing impressions, the *cella* itself had only a single column.

But in the general outline and arrangement this shrine of the Central Court must have closely resembled that of the fresco, and in one important respect we have evidence of a remarkable conformity. It has been already noticed that the architectural features of the façade as given in the painting tend to show that while the central opening led to a small chamber, the round ends of the roof beams of which are visible above the architrave, the two wings were open, or at most fronted shallow recesses. The traces of the shrine before us indicate a precisely similar arrangement. We have evidence of a central cell, but the two wings must obviously have been open. The northern of these is simply backed by the narrow oblong space in front of the older palace wall, in which the seal impressions were found. The southern pillar wing really performs a structural function in supplying light to what seems to have been a little inner area serving as a fore-court to the "Room of the Column Bases," a kind of ante-chamber to the Pillar Rooms. At the southern end of this little area, flanking the flight of steps that led down from the Central Court to the ante-chamber and Pillar Rooms beyond, was a small stone bench looking towards the recess in which I have recognised the lower part of the central *cella* of the shrine. It may therefore have served some similar use to the watching stations beside mediæval shrines, and the sacred contents of the lower compartment of the *cella* were possibly visible from it.

In the restored elevation of the shrine, as shown in fig. 3, the system of colouring is taken over from that seen on the fresco. The orange-brown colour, as noted above, represents the woodwork frame of the building, and in a perspective drawing Mr. Fyfe has made the tenons shown in the upright supports of each section to correspond with the ends of horizontal beams (or, in the case of the wings, of shorter pieces), running along the sides. According to this view, these side beams divided the uprights into a series of sections. On the other hand, it is possible that they did not come through as far as the front surface, but were simply socketed at intervals into posts that ran up the full height of the façade, forming one continuous piece. As has been already pointed out above, we may, at any rate, be fairly sure from the general analogies presented by the palace that what was actually seen on the surface of the building was not the woodwork construction itself but the coating of coloured plaster that masked and protected it. As a matter of fact the plaster coating, apparently with a white facing, that covered the limestone blocks of the podium is still visible in places at its base.*

The height of the central *cella* of the shrine as shown in the restored elevation is somewhat over that indicated by the proportion borne by the seated figures to the shrine on the fresco. It is 13 feet, or a little over 4 metres, as compared with about 9 feet. It is possible, however, as suggested above, that the size of the court ladies on the fresco was somewhat exaggerated in proportion to the building. The fresco design itself can certainly not be regarded as a nicely measured architectural elevation, and some latitude is allowable as to the proportions given. Neither is it necessary to suppose that the dimensions of the shrine on the Central Court exactly corresponded with that depicted on the fresco. The plan itself is variant in the two cases, the present building having, *ex hypothesi*, only a single column in the central compartment.

The reconstructed shrine is 16 feet 6 inches (about 5 metres) in width, and the two wings 9 feet (or $2\frac{3}{4}$ metres) in height. This latter result is interesting, as the measurement exactly corresponds with the depth of the central compartment.

From the perspective drawing, fig. 3, a good idea will be gained of the character of the little shrine such as we are able to reconstruct it on the basis of the existing remains and by the light of the miniature fresco. The *cella*, which apparently had another small chamber beneath it, must have been very small; but at the same time it would have been large enough to contain such cult objects as were found in position in a little shrine of somewhat later date in the south-eastern

* This stucco facing is seen at the base of the left wing of the shrine, as reconstructed, along the borders of the pavement, here preserved, of the Central Court. It goes down behind the cement slip of the edge of the pavement, a fact observed by Mr. Noel Heaton.

quarter of the palace. These consisted of small terra-cotta images of the goddess and her votaries and two plaster "horns of consecration" of somewhat diminutive size, with sockets between them for the shafts of the "fetish" double axes, and the head of a miniature double axe of steatite.* These objects stood on a ledge 1·50 metres long by 30 centimetres deep and about 60 high, within a small chamber about a metre and a half square. In this case, as in that of a small shrine with rude stone fetishes found in the Little Palace, the holy objects had been simply placed in an existing walled space belonging to the earlier building, and there was no specially constructed sanctuary.

The space in front of the ledge in the "Shrine of the Double Axes" referred to above was occupied by a plaster hearth and various vessels for food offerings or libations. It is quite possible that the little open area between the present *cella* as reconstructed and the neighbouring stone bench may have been made use of for offertory vessels of the same kind.

The ground plan (fig. 2) shows the reconstructed shrine in its relation to the neighbouring part of the building. The religious connexions of the environment are here seen clearly marked. In the elongated area behind the north wing of the little sanctuary were found the seal impressions already referred to showing a Goddess, the prototype of the later Rhea, on a lion-guarded height and a pillar shrine beside her. In the adjoining space were the repositories containing the figures of the snake Goddess and her votaries and the fittings of an earlier shrine belonging to the close of the Middle Minoan Age. Adjoining these again are the Pillar Rooms, which in view of numerous discoveries must be regarded as crypts serving a distinct sacral function; and by these, again, the chamber that contained the lioness-headed rhyton and a whole store of vases of ritual use.

* *Report of the Excavations of the Palace of Knossos* (1903), p. 95 *sqq.*

RITUAL VESSELS FROM STONE VASE ROOM ADJOINING SANCTUARY.

ST. MARY'S CHURCH, BALDOCK, HERTS.*

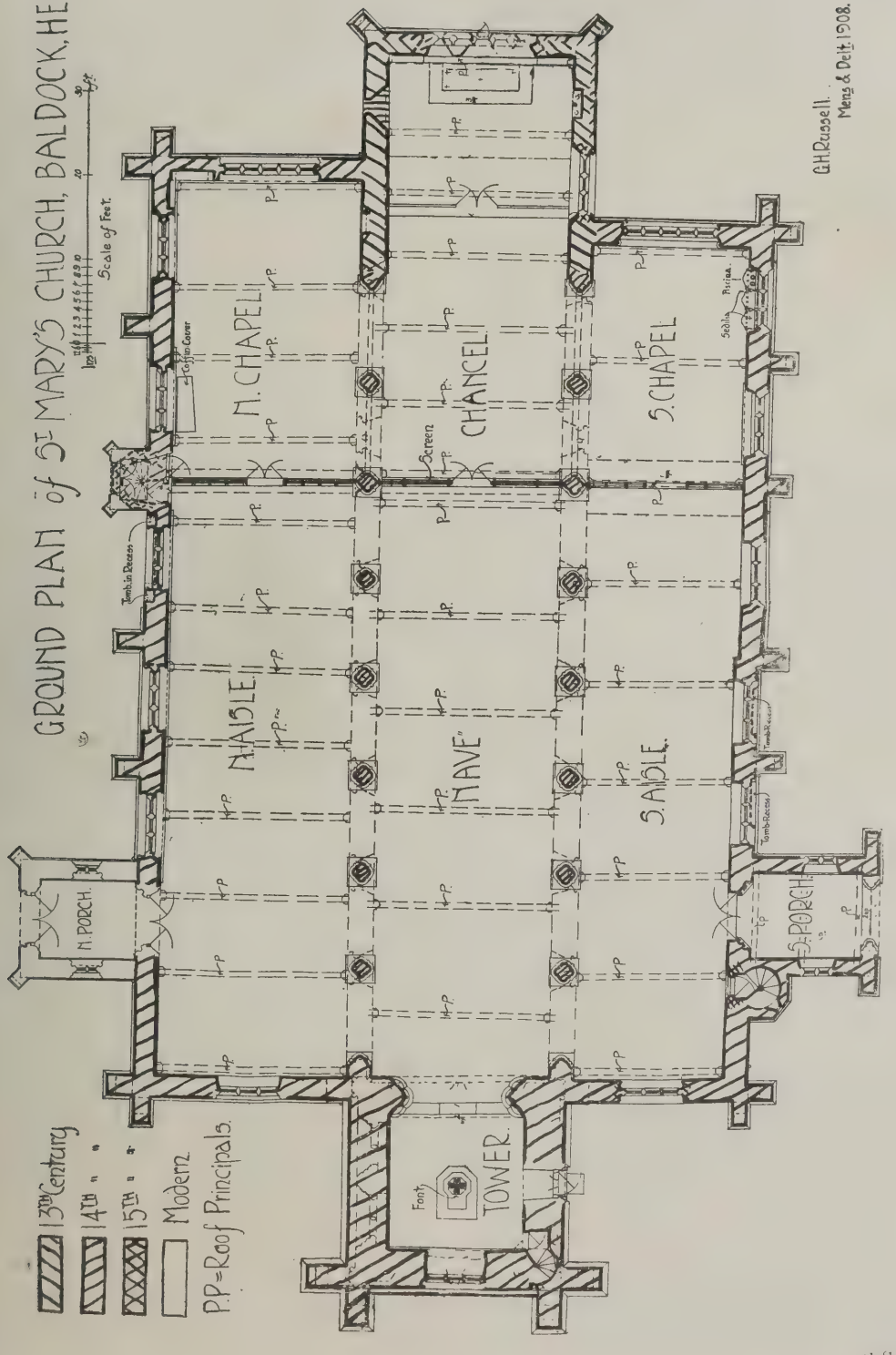
By Walter Millard [A.].

Baldock Church, Herts: Interior looking east.

BY way of explaining in outline the building-story of this fabric, I have to show a ground plan of it and a cross-section, drawn out to scale by Mr. G. H. Russell from measurements he has taken; and on these drawings I have indicated, by various hatching, the work of different centuries comprised in the fabric, so far as I have been able to distinguish this work in the building as it stands. Scale-drawings help one to grasp such a building in its entirety in a way that cannot be attained to by merely viewing it inside and outside. These lay open the disposition of its different parts, their size and their relationship to one another; they reveal the make of the thing as a whole.

This church comprises several distinct parts important enough to bear separate designations. For instance, there are the nave and the chancel, these two being of equal width without any structural feature between them in the nature of a chancel arch, so that their roofs are continuous. The nave is flanked by north and south aisles and is closed at its western end by a massive tower. The chancel is flanked by side chapels, in the shape of aisles, forming continuations of the nave aisles but not reaching eastwards to the extreme extent of the main building. Porches project from the nave aisles to the north and to the south. Wooden screens, stretching right across the building, make the necessary divisions between nave and chancel, and between the nave aisles and the chapels. This general plan has not been materially changed since the earlier part of the fourteenth century, neither curtailed nor expanded; but we may not conclude that it then all came into shape at one building-operation. Some time, indeed, within the first half of the century—as I read the structure, and indicate by hatching on the drawings—the bulk of the existing building must have been designed, set-out and built, but not as a brand-new

* Read at the Church before the East Herts Archæological Society, 20th August 1908.


GROUND PLAN of ST MARY'S CHURCH, BALDOCK, HERTS.
Scale of Feet.
G.H.Russell. Mens. & Delt. 1908.
13th Century
14th " "
15th " "
Modern
PP=Roof Principals.
N. PORCH
N. AISLE
N. CHAPEL
Tomb in Recess
Organ Case
Screen
CHANCEL
S. CHAPEL
Sedilia
Piscina
NAVE
S. AISLE
Tomb-Recess
S. PORCH
Font
TOWER

thing, on a hitherto unoccupied site. This work must actually have been a reconstruction, in new and enlarged form, of a previously existing church; the chancel end of which was retained in use, and to our day remains in use, as the sanctuary. These fourteenth-century builders actually kept the walls of the earlier chancel, for perhaps contemporary with it, or yet earlier, the existence of which is most likely to have affected considerably the disposition of the fourteenth-century building in its leading lines. For instance, the span of the nave conforms to that of the earlier chancel; the size of the tower on plan seems to be governed by the consideration of its having to take the thrust

half its length, while rebuilding or building-out anew every other part of their church, to the shape and size it still retains on plan. That is one of the ruling facts in the history of the fabric. I say that our fourteenth-century building was largely a reconstruction, because this earlier piece of chancel necessarily implies a church of the nave arcades; and so on. There are indications, too, that the reconstruction proceeded piecemeal, as might be expected of a building like this, in constant use and indispensable to its users. One such indication may be noted in the variations of design in the profiles of the moulded capitals of the nave arcades, pointing to the probability of the

work having been carried out in sections of so many bays at a time; capitals of particular patterns occurring in groups.

Although the building has not been materially

BALDOCK CHURCH, HERTS: EXTERIOR FROM EAST.

changed in plan since the fourteenth century, it underwent a striking change in section during the fifteenth century, the main roofing being then remodelled from end to end. For, built in on

the eastern face of the fourteenth-century tower, above the existing nave roof of low pitch, there remain in position several feet-run of moulded-stone weathering which must have once covered the apex of a steeply pitched roof. Following the lines of this weathering downwards, on our cross-section, we find that the roof timbers would have sprung off the walls at too low a level to admit of

anything in the nature of a clerestory above the nave arcades. That is, this nave, in the fourteenth century, was even less brightly lit than it is now, its light having to come almost entirely through the aisles and the tower. Men of the fifteenth century seem to have tried to remedy this, by erecting the existing clerestory, putting above it their own roof, of low pitch, which they continued right along to the extreme east end of the church. In the same century, apparently, the aisle roofs were put on, either for the first time or were reconstructed, and the screens were executed one after the other.

The nineteenth century seems to have given the church its north aisle ceiling, of plaster, painted and grained to counterfeit oak. To that century also belong the two north porches. The larger one might possibly be a reconstruction of an earlier porch; the smaller one usurps the place of the fifteenth century rood staircase. The nineteenth century must also be credited with the removal of the floor of the chamber over the fourteenth century south porch. Such, in barest outline, is the record of the structural development of this building.

For evidence as to the dates to which I have ventured to assign the different portions of the building I point to the work itself, to its general design and detail. Certain indications lead one to an approximate dating of the chancel. On its external wall-face towards the north we can see the wrought stonework of about half a lancet-shaped window, now blocked-up; and on either side of the fourteenth-century east window we can detect straight, vertical joints running up amongst wrought masonry. These joints I take to be the outer jamb-lines of earlier window-lights; and I conjecture that they belong to a triplet of lancet-shaped lights which preceded the existing window in that east wall. Such window-lights might well be some century or more earlier in date than our five-light window filled with flowing tracery. The piscina in the south wall of the chancel appears to agree in date with these earlier windows. Again, in the exterior faces of the fourteenth-century aisle walls and in the south wall of the chancel cased by fourteenth-century builders when they added its angle-buttresses, there may be observed sundry fragments of wrought stonework, used up as old material in the flint-rubble masonry, displaying profiles of mouldings that would also be in accord with these windows. Then, the axis of the nave is not quite in line with that of the chancel; a common occurrence when two such pieces of work are not contemporary.

It is from indications such as these that I am led to conclude that we have in position the eastern portion of a chancel dating from perhaps the early part of the thirteenth century, if not the last decade of the twelfth, and that fragments from the destroyed body of the church of that time still exist for us to see, used up at random, as bonders, in the rubble walling built by the masons of the fourteenth century. The font, too, appears to agree in date with the remains of this earlier church. I fail to discover anything in the way of detail or in the design of the structure to suggest a building of earlier time than about the end of the twelfth century, when the pointed arch had come into general use. I can detect no detail of so-called Norman character.

The work in the church of the fourteenth century is clearly marked by its characteristic mouldings and general design. To trace out the exact order in which it was executed would be a most interesting study; for, assuredly, it was not all done in a year or two. It looks, in fact, as though parts of the work, particularly in the aisles, did not get finished much before the end of the century—judging from the heads of certain windows. As a possible explanation of this I would offer the following hypothesis. The nave arcades and the tower having been erected, say, in the course of the first half of the century, as their detail would suggest, and the aisle walls built up to the window-jambs, there would then come the great pestilence, known as the Black Death, in 1348–9, causing the stoppage of all work. It is known to have left many a building with half-built walls, on which work was not resumed for years; as is shown by the change of character in the work when it came to be completed. This seems to be such a case.

The fifteenth-century work in the church is also pretty clearly marked by its design and detail; but here again it would be interesting to make out the order of its execution and the various dates for it. One is tempted to a detailed study of the many good things this church possesses—the fine set of oak screens; the series of monuments and minor features; and not least, the display of figure-sculpture, both of the fourteenth and of the fifteenth century, viz., the series of label-stops and of roof-corbels respectively. But I undertook only to describe in outline the building-story of the fabric.

A paper was read on the church, in 1885, by the Rev. Canon Davys, who pointed out that as Baldock was connected with the Knights Templars from the twelfth century until their suppression in 1312, and as the manor then passed to the Knights Hospitallers, it must be to these latter that we owe the fourteenth-century work in the building. They seem to have soon set about their great scheme of reconstruction, since the design of it suggests that it may have been begun before the first quarter of the century was out. The next great undertaking must have been the raising of the clerestory in the fifteenth century, involving the reconstruction of roofs. The last important work was the restoration of 1869 and subsequent years.

FURTHER NOTES ON LINCOLN MINSTER.

From Mr. Francis Bond [*Hon.A.*]—

The letters of Mr. John Codd and Professor Lethaby in the Journal for 21st January and 4th February 1911 call for a reply, which I will endeavour to put as concisely as possible.

1. The first difficulty raised is as to the continuous range of what we termed "pigeon-holes" in the clerestory passage. Mr. Codd suggests as an explanation that all St. Hugh did was to complete the ground story of the choir and choir-transepts, then roofing in. But if the "pigeon-holes" were constructed after St. Hugh's time, their existence and purpose would still require explanation. Professor Lethaby suggests an analogy from the French work at Canterbury (1175–1184), referring to an illustration in Professor Willis's *Canterbury*, page 49. If, however, this illustration be compared with Mr. Weatherley's drawing in *Gothic Architecture in England*, page 106, it will be seen that it merely refers to the omission of the upper courses of the tympanum in some of the triforium arches. What Professor Lethaby saw, and what I have seen myself in the clerestory passage of Canterbury choir, is something quite different, and is described by Professor Willis, *ibid.* page 96, with his usual precision: "The mechanical construction of the clerestory in William of Sens' choir is somewhat singular, and is shown in my transverse section (fig. 14). The floor of the clerestory gallery is carried by the triforium arches; but the thin wall of the clerestory windows rests upon a segmental arch which springs from the buttresses; and the crown of this arch is so high that it rises even above the pavement of the clerestory gallery, leaving a small opening by which persons in the latter gallery can see into the triforium below and hold communication with persons therein." This, however, throws no light on the Lincoln problem. Canterbury choir was from the first intended to be vaulted; and by the curious device described above the greater part of the weight of the clerestory wall, itself carrying a stone vault as well as a wooden roof, is taken off the triforium arcade and discharged east and west on to the wall piers of the clerestory. Each segmental arch is held tight at either end by a transverse arch, built across the triforium chamber, and each wall pier in addition is stiffened by an external flying buttress. All this is purposeful construction. But can any one who studies the photograph on page 47 of this volume of the Journal believe that the Lincoln "pigeon-holes" are of any constructional value? Are they not on the contrary seriously detrimental to the stability of the fabric? The very photograph shows on the right a serious crack caused or aggravated by the "pigeon-hole" above. But if the pigeon-holes are not of constructional or artistic origin—they cannot be the latter, for they are not visible from the pavement of the choir, nor are they moulded, as they would be if they were meant to be seen—then some other explanation must be offered, and at present the explanation offered by us seems to hold good, difficult as we acknowledge it is to accept it.

2. Professor Lethaby regards as impossible the great height of the triforium openings, showing nearly 20 feet of effective height from the string to their crowns. I do not see where the impossibility comes in. The present triforium chamber does not terminate, though it appears to do so, at the clerestory string, but rises to the sills of the clerestory windows, and therefore actually does possess the height of nearly 20 feet against which the objection is raised. Nor from an artistic point of view do the tall lancets of the triforium, as shown in Mr. Watkins' restoration of the choir on page 44 of the Journal, appear objectionable.

3. Again, the alternation of narrow and broad bays is regarded as impossible. But some such design as that on page 44 is almost inevitable, if the existence of a broad opening between a triplet of narrow ones is granted. As for the exact form taken by Mr. Watkins' restoration, that is dictated by the work in Ripon nave, of which a view is given on page 92 of the Journal, and which had not been completed long when St. Hugh began work at Lincoln.

4. For the design of the present triforium arcades of the choir and nave alike Professor Lethaby would have us look to the French choir at Canterbury. But at Canterbury the tympana of the triforium arcades are solid, whereas at Lincoln they are pierced with trefoils, quatrefoils, &c. Now Ripon choir has just this design of tympana pierced with foliated openings; so also has Hexham choir, which was begun probably some few years before Lincoln. It is also denied that the triforium arcade of the Lincoln choir was copied from that of the nave. Well, the two are very closely alike, as has been pointed out by Precentor Venables. Now, if the design of the triforium of the choir is to be dated *c.* 1192, and that of the nave *c.* 1220, we shall have the remarkable fact that in triforium design the Lincoln masons had learnt nothing for thirty years; that they were satisfied *c.* 1220 to repeat an old-fashioned design of *c.* 1192. This is surely improbable. The design of the whole nave is a most intelligent and clever criticism of that of the choir; almost every defect, constructional as well as artistic, of the latter is remedied in the former; and it is improbable that the design of the choir triforium, if it existed, would have escaped criticism and amendment.

5. Both Professor Lethaby and Mr. Codd

object to the excessive number of clerestory windows shown in the restoration on page 44: Mr. Codd calls it "fenestration *ad infinitum*." Such a design at so early a period is, I grant, improbable—it is not, I think, impossible. It would appear that the primary factor of Geoffry de Noiers' design was the sacrifice of vaulting to lighting. To insert, as everybody knows he did, in each bay of the clerestory three windows was in itself a great innovation in 1192; at this moment I cannot think of any other example; at Byland, where the choir was ready for use in 1177, there were only two very small windows in each bay of the clerestory; in Canterbury only two large windows in each broad sexpartite bay. Well, if Geoffry was so progressive as to insert three windows in each bay, I do not see why he should not have been a little more progressive still, and have inserted four. There is a remarkable analogy, which should have been pointed out in our paper, with the design of the two upper stories of St. John's, Chester. There are not indeed at Chester the alternating broad and narrow bays of Ripon nave, but there are four openings in each bay of the triforium, and four arches (only one or two pierced with windows) in the clerestory. Now if all the four arcades in the Chester clerestory had been pierced with windows, we should have practically a parallel to Mr. Watkins' clerestory as shown on page 44. The upper stories of St. John's, Chester, may be a few years earlier than Lincoln choir; and it is quite possible that they may have given a hint to the Lincoln architect. Professor Lethaby asks whether the lancet-shaped panels in the pockets of the vaults are moulded or plain. They are unmoulded, just as are the windows of the present clerestory. It is suggested that they may be "recesses to lighten the structure; and are thus some evidence for a vault," but surely these narrow recesses are too insignificant to lighten the main wall; and so far from suggesting a vault, they are in the way of the present vault and the lower part of each is blocked up by its springers. It is another question whether they are panels or windows, and on that we do not speak with certainty. It is quite possible that they were ornamental dark recesses placed between the triplets of lancets. Our conclusion, however, was that they originally passed through the wall and were windows. This conclusion was based on the character of the masonry of the outer face of the clerestory wall. On that my personal opinion is worth little. But I took mason Davis round the building, and he was of opinion that the outer face between each pair of triplets was composed of old material reset. Mr. Watkins, examining it for himself, was of the same opinion; hence our view that the present clerestory buttress occupies the site of a lancet window. It is certainly difficult to conceive that "the two bays of blank arcade on the exterior between the clerestory triple-lancets could ever have been inserted so neatly in place of a clerestory window"; we can only suggest that the masons of *c.* 1237 had done such a large amount of resetting old material that they had become experts at the job. Additional evidence is supplied by the treatment of the spandrils of the inner wall of the arcade which masks the clerestory windows. In these spandrils are pierced trefoils and quatrefoils. It seems very improbable that this ornamentation is of the time of *c.* 1192, and very probable that it is later than *c.* 1230, probably as late as 1237. If so, then the inner arcade of the clerestory has been rebuilt; and it becomes less improbable that much of the outer clerestory wall has been rebuilt also.

6. Mr. Codd objects to our view that the aisle walls were thickened to carry a vault not originally contemplated; the thrusts of a vault, he says, come down on the wall-piers and not on the intermediate wall. Well, Mr. Codd knows that, and Viollet-le-Duc knew it; but I doubt if it was known to Geoffry de Noiers.

7. I am glad to find that Mr. Codd believes that the character of the choir vaulting points to a date not earlier than the second or third quarter of the thirteenth century; our own view is that it is between 1237 and 1255.

8. I note that he also agrees with us that the vault of the Chapter House with its concomitant abutment is a later addition.

9. His statistics as to the actual weight of a stone vault I hope he will print in the JOURNAL. Personally, when I stand on a high vault like that of Lincoln, and think of the walls, not very thick and resting on arches of wide span, and remember that these arches are supported by piers themselves as a rule not so thick as the arches, it seems very much like inverting an Egyptian pyramid and resting it on its point. However, Lincoln choir, with the aid of the additions made to its piers *c.* 1237, has so far borne bravely the weight of wall, vault, and roof. The Minster authorities at any rate have no doubt as to the stability of the edifice; for they have filled up the pockets of the vault of the northern choir aisle with concrete to form a platform for the heavy weights of the new organ and its machinery.

10. Mr. Codd accepts our view that the chapels of the choir transept are part of the original work; also that the clerestory window of the end wall of the northern choir transept was originally glazed; and that the end bay of each of these transepts was originally but one story high.

11. We ascribed the plan of St. Hugh's apse published in the *Archæological Journal*, xliv. 194, to Mr. Pearson on the authority of Precentor

Venables. No doubt, as Mr. Codd says, the plan was originally drawn by the old clerk of the works, Mr. J. J. Smith. This is not incompatible with Precentor Venables' statement that "Mr. Pearson has devoted much time and thought to the drawings *which have been submitted to him,* and I have the happiness of being able to lay before you the conclusions he has arrived at as to the original form and arrangement of St. Hugh's choir."

12. Mr. Codd says that "the base mouldings now existing" of what we conjecture to have been the Old Chapter House, "if not, as I think they are, of the identical section of those to the polygonal Chapter House, are of similar character, and seem to indicate that this building and the present Chapter House were carried up simultaneously." I do not remember precisely the character of the bases, but the rib moulds of the vault of the "Old Chapter House" are certainly the same as those in the eastern chapels of the choir transepts, and very different from those of the present Chapter House. Moreover the arches of the doorway of the "Old Chapter House" and of the niche opposite are moulded on the soffit and face-planes. As for the bases generally, I do not think that they vary greatly in the work of 1192, 1200, 1220 and 1255. I have, however, asked Mr. Watkins to look into the matter, and he tells me that practically the same base was in use at Lincoln from 1192 to 1280; and that the bases of the "Old Chapter House," the present Chapter House, and the Angel choir are all similar in section, though they differ in the proportions of their respective members; the chief difference being that in the "Old Chapter House" and the Angel choir the moulded base overhangs the plinth, whereas in the present Chapter House it does not. The whole period is indeed a comparatively short one, and it is this which has made our task so difficult. At Canterbury the mouldings enabled Professor Willis to discriminate easily between the work of *c.* 1090 and that of 1175; at Winchester between that of *c.* 1100 and that of *c.* 1390; at Gloucester between that of *c.* 1080 and that of *c.* 1340: whole centuries intervened in the latter two cases between the building periods under investigation; at Lincoln, however, all the building periods into which we were inquiring fall within some fifty years. At Lincoln too the difficulty, especially in studying the high vaults, is intensified by the darkness of the church, and no little by the bad weather which seems to prevail there; at any rate in the very many visits that I have paid to Lincoln in recent years I have had a good light in the interior on one occasion only. Things are made worse by the enormous quantity of opaque and very bad modern glass.

13. There is one factor which was omitted from consideration in our paper, owing to the great length to which it extended: that is the influence of the twelfth-century South of England school of Gothic, and in particular of the French choir at Canterbury. To this latter Professor Lethaby rightly calls attention. To our previous assertion we still hold, viz., that in the main Lincoln choir is to be classed with the Gothic of the North of England school; *i.e.* with such work as that at Ripon, Byland, Brinkburn, Hexham, Darlington, Tynemouth and Whitby. None of these was designed to have vaults over its main spans; the only work of the period provided with high vaults seems to be at Roche, which was a Cistercian abbey. On the other hand the chief twelfth-century examples of the South of England school of Gothic tend to provision of high vaults; *e.g.*, the choir of St. Cross, Winchester, New Shoreham chancel, Canterbury choir, Chichester choir and nave. The deliberate decision to eschew high vaults completely differentiates Lincoln choir from the Southern group. Nevertheless there are important borrowings from Canterbury. The Canterbury influence is seen undoubtedly in the plan. No North-country church of the twelfth century possessed choir transepts; and the Lincoln choir transepts possess the additional characteristic that each has eastern chapels, three of which are apsidal, precisely as at Canterbury. The planning is directly of Canterbury inspiration. A second and very important feature is the enormous use made of marble shafting from Purbeck. A few years earlier, perhaps *c.* 1175, Purbeck shafts had been brought to Durham for the Galilee; but Lincoln choir is the first example of the invasion of the North of England on a large scale by the Purbeck use. Here again her exemplar was Canterbury choir, in which the French designer perhaps had in mind the chancel of St. Cross, Winchester, which he may well have seen, if he entered England, as was not uncommon, viâ Southampton. Of the Purbeck use Geoffry de Noiers was a whole-hearted admirer; not so his successors; it is amusing to see how soon the southern pier, with the detached shafts, of the choir was abandoned in the central transept, the nave, and the angel choir for the normal pier of Northern Gothic, viz., that consisting of a cluster of columns. Except in two or three aumbries all the Lincoln caps are circular in plan; this also may be due to Canterbury precedent; but not much stress can be laid on this feature, for all over England, *c.* 1190, the circular was ousting the rectangular abacus—the conflict of the two is well seen in the choir and retro-choir of Dore Abbey. One other feature is beyond doubt Southern: it is found in Lincoln choir, Canterbury choir, and Chichester retro-choir alike; it consists in proportioning the depth of the foliated capitals to the diameter of the columns or shafts; it is

a treatment common to Canterbury and continental Early Gothic, and from Canterbury both Chichester and Lincoln must have got it. Another feature is common to Lincoln and Chichester—viz., the presence of highly developed figure sculpture in the spandrils of arcading: at Chichester it occurs in the triforium arcade of the retro-choir; at Lincoln it is best seen in the wall arcading of the Dean's chapel. Now the remodelling and rebuilding at Chichester were necessitated by the fire of 1186: and as a consecration took place there in 1199, it is possible that the work of the retro-choir may be earlier than that at Lincoln. But more likely the Chichester people would first repair those parts of the church which could be got ready most rapidly for service, leaving the retro-choir, which was to be rebuilt *de novo*, for the final stage of the work. In that case the date of the Chichester retro-choir might approach the year 1199, by which time we may assume that at any rate the lower part of the Dean's chapel at Lincoln was completed.

But whatever the obligations to Ripon on the one hand and Canterbury on the other, there is a third factor to reckon with. There was undoubtedly a school of Lincolnshire masons hard at work in the county between *c.* 1180 and 1192. At Clee, near Grimsby, they built a church, which the still existing inscription declares to have been "dedicated by the Lord Hugh, Bishop of Lincoln, in the year from the Incarnation of our Lord 1192," the very year in which St. Hugh began Lincoln choir. Of this important historical monument "restorers" have demolished the chancel; all that remains of the work of 1192 is the eastern and the western arches of the crossing. Now the mouldings of these arches are similar to, but I think rather more advanced than, those of the great church of St. James, Grimsby: the arch moulds of the latter, illustrated in *Gothic Architecture in England*, p. 667, are quite Romanesque in character. If that be so, the Grimsby work is a little earlier than that at Clee; and we may trace another line of ancestry for Lincoln choir from Grimsby Church, building probably *c.* 1180, and Clee Church, completed in 1192.

In conclusion, may I point out that as regards the remodelling of the triforium, clerestory, and choir transepts, neither Mr. Watkins nor myself entered into the inquiry from the point of view of any *parti pris*; we had not the least idea that we should come across evidence of such extraordinary and drastic changes as we were later compelled to admit. The facts accumulated, one by one, till we had a great mass of evidence before us; for a long time it seemed a mass of inextricable confusion and contradiction; in the end the key to the mystery was found, so far as the choir goes, in the reconstruction rendered necessary by the conversion of an unvaulted into a vaulted choir. Nevertheless some one may arise, the sooner the better, who may bring forward an explanation simpler and more plausible than that which we have offered. However that may be, our investigations have left behind, we hope, a considerable amount of information on other matters; on the dates of the high vaults and abutment of choir and transepts, as well as of the vaults and abutment system of the present Chapter House; of the original intention of dispensing with high vaults in the choir and transepts, and even with vaults in the aisles; of the purpose of St. Hugh's double arcading on the lower walls; of the date of the eastern chapels of the choir transepts; of the late date of the two upper stories of the end bays of each of these transepts; of the setting out of St. Hugh's apse with seven chapels radiating from its procession path; and of the purpose of the oblong building remodelled by James Essex, though as regards the latter there are difficulties which the evidence we were able to obtain does not completely solve. We also believe it proven that the vaulting and remodelling of the choir, choir transepts and central transepts were effected in the time of Bishop Grostête between 1237 and 1255; and we have put forward evidence that St. Hugh's work, though it shows important influence from Canterbury, is in the main work of the North of England school of Gothic, carried out, however, by Lincolnshire masons.

FRANCIS BOND [*Hon.A.*].

From Mr. W. WATKINS [*F.*]—

The letters of Professor Lethaby and Mr. John Codd are welcome communications because they not only tend to keep alive interest in the subject, but they also afford an opportunity for further elucidating the peculiarities of St. Hugh's work at Lincoln, as well as for explaining points which apparently are not yet accepted as correct; and as both letters touch upon the same points, I trust they will accept my answer as applying to both.

It was to be expected, indeed we anticipated, that the conclusions we came to (being so very different from those of the several eminent experts who have during the past hundred years or more endeavoured to solve the puzzle) would be challenged, and it is comforting to feel the pleasant way in which the challenge is made.

The triforium transformation was as great a revelation to us, and for a long time as difficult of our acceptance, as it now appears to be to Professor Lethaby and Mr. Codd; but every additional step we took in the analysis of the mystery, every new point that revealed itself, more and more led Mr. Bond and myself on towards our final conclusions; and after all, the triforium transformation was as nothing compared with the entire demolition of

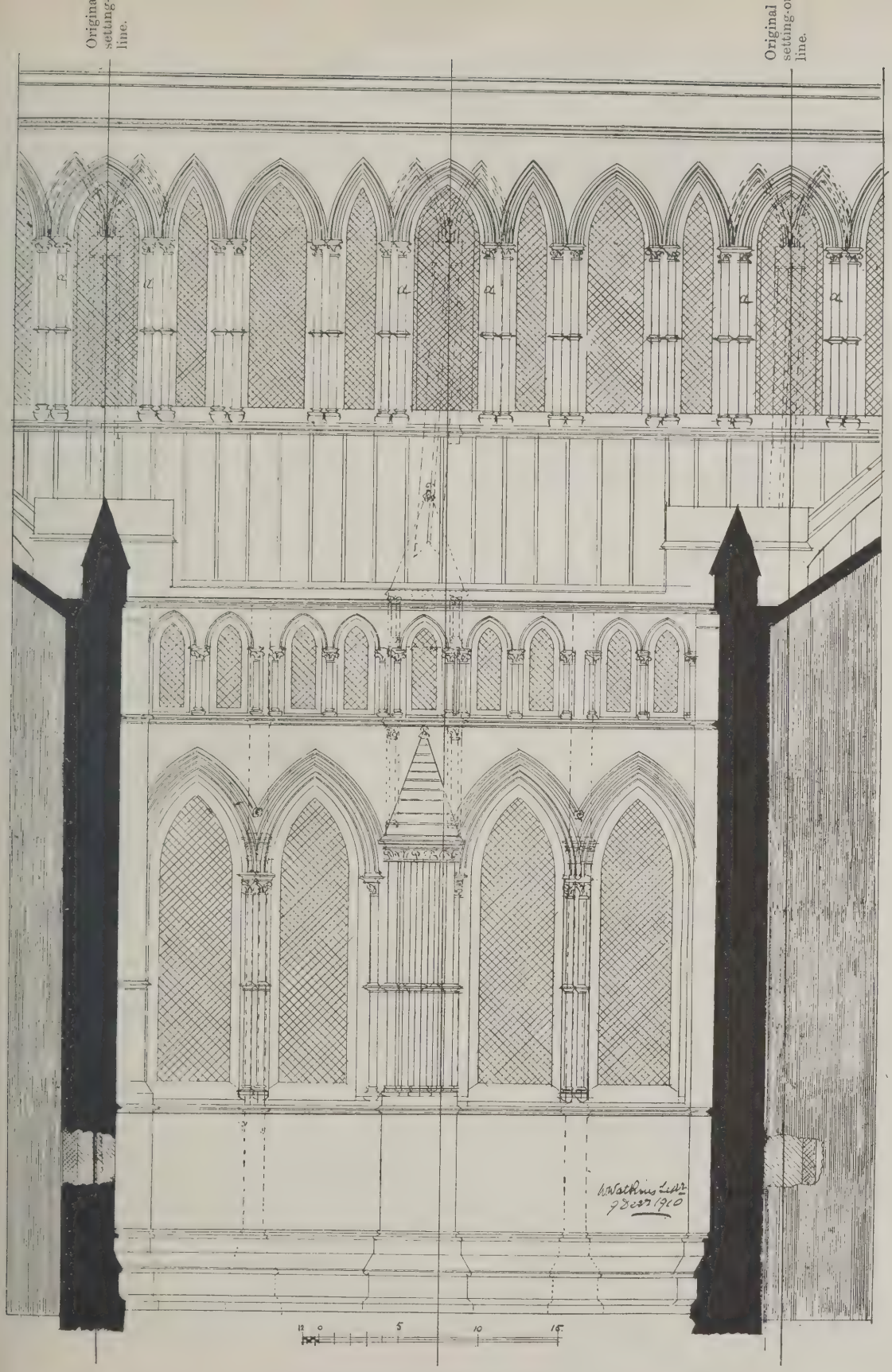


Fig 13. LINCOLN CATHEDRAL: INFERENTIAL RESTORATION OF THE NORTH SIDE OF ST. HUGH'S CHOIR.

The dotted lines show the buttresses as they now exist.

St. Hugh's sanctuary and chevet of chapels to make room for the present angel choir. Then as to the proportions of the triforium, *i.e.* the heights and widths of the bays, with, as Professor Lethaby says, "The double shafts on either side of an opening, taking the place of the ordinary bay divisions, seems impossible," may I venture to point out that it was a perfectly natural division to make, that it was required for constructional purposes, being, in fact, necessitated by reason of the spaces (21 feet 6 inches) from centre to centre of the main bays being too great for the bearings and support of the longitudinal timbers of both roof and ceiling. This very spacing of the wall shafts materially supports our contention that the building was not designed for vaulting, but for wooden roofing originally.

A precisely similar division and arrangement of bays were made at Ripon (see fig. 12 of our "Notes") where it was no doubt made for the same structural reason as it was at Lincoln. If, however, the objection is taken on æsthetical grounds, then I venture to think that the arrangement of alternating wide and narrow bays gave emphasis to the wider and grouped features, as well as scale of proportion to the triforium and clerestory arcades. These, however, are pious opinions on taste, about which two persons can seldom or never be found to agree, and as they do not affect the real reason for this spacing it is quite unnecessary to enlarge upon them further here.

The measured height of the triforium and clerestory arcades is 19 feet each from the floor to the soffit, *i.e.* the underside of the arches; and when we consider that in the two styles immediately preceding the lancet the triforia and clerestories of churches were not infrequently of equal heights, why should it be surprising to find at so early a date as 1190 that St. Hugh's architect had adopted a similar proportion. But, of course, I do not tie myself to the exact height of the triforium as shown on the drawings. The triforium arcade was not necessarily 19 feet high, for the shafted piers between the openings need not have descended to the gallery floor, nor to within 2 feet 9 inches or 3 feet from it. There could have been a solid stone wall to enclose the gallery, with the piers resting on it, or there could have been solid stone plinths under the piers and pierced stone enclosures between them; indeed the enclosing walls could have been treated in many other ways and still have been in harmony with the style of the period.

But all architectural embellishments were purposely ignored, and nothing was put into the drawing for which there are not reasonable grounds for it in the Cathedral itself.

All this, however, seems to me beside the question. It is not whether the proportions and details of our restoration are good or bad, but whether the present triforium arcade is original and part of St. Hugh's work; or whether the systematically arranged and grouped arches we call pigeon-holes are the back arches of original triforia arcades. Professor Lethaby thinks they were merely relieving arches to remove the pressure from the triforium arches below them, in a similar way to that which occurs in Canterbury Cathedral. This seems to me quite an untenable suggestion for the following reasons. I have not seen the Canterbury arches, and can therefore only judge of their purpose from the description given of them in the Professor's letter, wherein he says, "Instead of three openings (at Canterbury) there is one, which is, in fact, the upper part of a single big inside arch, but the principle is the same" (as in that at Lincoln). This at once seems to make the Canterbury arches relieving arches pure and simple, because they take the weight of the wall above and throw it, as it were, on to the solid piers of the main arcading below, whereas the three acutely pointed and grouped arches at Lincoln stand upon legs (each 2 feet 6 inches wide by about 1 foot 9 inches thick), not on the main piers, not upon the crowns of the arches on which they rest, not even at equal distances at each side of the crowns, but are placed haphazard at unequal distances from each side of the apex or crowns of the arches, thus gathering the superincumbent weight and focussing it on one point at the backs of the triforium arches below them, which in many places has caused the arches to crack and open at the joints. This crack is most clearly illustrated in the photograph, fig. 7 of our "Notes," and it can be seen in the building in other arches of this kind. The purpose of a relieving arch is to strengthen the building, but the arches at Lincoln in their present form are a positive weakness to it. This is proved by the cracks which they have caused in the arches on which they stand, and also by the fact that, although some of these arches remain in the bays of both the choir and central transepts next to the great tower, as well as in the bays next the choir transepts, their openings under them have since been built up and filled in with solid masonry to afford a better and firmer resistance to the lateral pressure of the transverse arches of the tower and transepts. There is still another proof that these arches were not, and never were, intended for relieving arches, namely, that they were omitted from the end bays of the central transepts from the very first, for the simple reason that these bays were not completed until after it was decided to vault the church, and the lancet arcading of the triforium was therefore not required, nor was it ever built there. But all the arches of the triforium and clerestory shown in our restoration drawings are *in situ* now, and can be seen by anyone who chooses to look for them, and it is simply necessary to elongate the piers between them until they reach the gallery floor, or to within

some 3 feet of it, to make the arcade what we have made it. If, then, these arches were not part of this arcade, what were they made for? Certainly not for relieving arches, and therefore some better purpose for them must be found before we can change our views respecting them. But there is another very fair inference to be drawn in our favour from the way the windows (now the wider panels of the clerestory, as seen in the pockets of the vaulting in the false roof) were dealt with outside.

It may be seen on reference to fig. 13 (which is the north elevation of St. Hugh's Choir), that in order to carry out the two arched panels of the wall arcading in the confined space left for them (behind the flying buttresses in harmony with the adjoining windows), one of the two shafts marked *a a a*, &c. on the clerestory, fig. 13, had to be omitted in each compartment.

I trust I have answered the chief objection to our scheme of development, and I hope in the same kindly spirit as that in which it was made; and let me add that it is only by fair and candid criticism of this kind that the truth can be obtained. That is what Mr. Bond and myself most desire.

W. Watkins [*F.*].

22*nd February* 1911.

A MEETING.

[On Friday, Feb. 17, a performance of Bach's Passion Music (St. Matthew) took place in Westminster Abbey.]

They have met—the Abbey Church of St. Peter at Westminster and the Passion Music of John Sebastian Bach. There has been mention of this in the annals of music, shall we architects not also give it place in the chronicle of our own craft? Hardly, says one, and argues that for buildings there are no set times of display, but an abiding permanence or being. Music, says he, has her moments of outpouring, ordered hours of exposition between which are the long silences which are nothingness; therefore we tell of the setting forth and the manner or excellence of it. But with architecture, he claims, there is no now and then, but always a continuance, so that to-day is as yesterday, there being no silences for there is no sound.

But even while he speaks he knows his lie. Even were it true that architecture is a stream of constant flowing, and music a bright fountain of sudden bursting forth and as sudden drought, still would there be in this mingling of the waters a tale to be told by the friends of the river, no less than by those whose life is spent in waiting for and tending the spring.

But are they spring and river? You that are lovers of architecture, do you not confess that for you as well as for the lovers of sound there are just as truly times of receiving and times—long times—of emptiness. You that love the Abbey, are not her calls to you just as much (and as little) passing moments as those of the listener? Come you to her shelter as worshipper? There are the set times of her gracious sheltering. Is she to you a mere masterwork of art? Then do you not number her influences by the hours of study? Or again, are you one of those passers-by who daily—perhaps twice a day—come under her great shadow in the street? You are even so perhaps not the least worthy of her servants. You never pass without an inward reverence and a silent *Quam dilecta*. But even to you the sum of your homage is the sum of those passing obeisances. Or, if you contend that your heart in absence is often alive with the thoughts of those daily visions, still there is a parallel in the musician's heart whose memory is filled with the strains he loves even when outward hearing is denied. For each there are alike the times of actual communion and the "gaps of song" which memory stores.

So let us agree that on that Friday night there was an awakening no less of those ancient stones than of those less ancient melodies, and both were busy with that old new tale which is the dew of their birth.

Of such a double awakening who shall say it was merely this that awoke and that? Is there not in the mingling of such excellences an added essence which could not be of either alone? Even flint and steel can breed fire.

And what if the great temple was only half seen, what if the frail rows of light that lined the nave served but to show the dimmest outline of the upper glories? The poet has praised the sweetness of melodies unheard. Was there not a beauty even in the very shrouding of those fair shapes whose sheer height withdrew them upwards from the little man-made glare below.

Know you not that the unseen height of that mystery was a mirror of the unplumbed depths of the music, and both a presentment of their unsearchable theme?

Bach is of all time; and the Abbey, if you care to remember it, was a-building while St. Thomas of Aquino wrote.

Truly Art is too long for life; but its length is nothing to its depth and height.

P. W.

REVIEWS.

PIRANESI.

Piranesi. By Arthur Samuel, La. 8vo., containing 200 pages of text, and 25 reproductions (mostly in double plates) of rare etchings cloth gilt, price 12s. 6d. net. Lond. 1911. [*B. T. Batsford, 94 High Holborn, W.C.*]

A grandiloquent discourse upon "Palladio and the Ancients" was the invariable accompaniment of every respectable work on architecture in the eighteenth century. Yet for a long time the latter were mentioned only ,as it were, by courtesy, and it was always to the great Palladio that the majority of the English architects looked as the supreme authority upon all matters of design. About the year 1760 this state of things began to change. Henceforth the ancient forms of architecture came in for more study at first hand, and were less regarded through Renaissance spectacles.

It has been customary to attribute this "classic revival" to the publication of Stuart and Revett's "Antiquities of Athens" in 1762, and to the Adam brothers' "Ruins of the Palace of Diocletian" in 1764. But this is not the whole truth. The influence of Piranesi has never been fully appreciated. It is well known that personal acquaintance with him affected the work of the Adams, and of the younger Dance; but the power of his influence was not limited to the comparatively few men who actually knew him; it extended over a much wider field, through the medium of his wonderful etchings. These were widely circulated during his own day, and at a later period, from Paris, still more widely, although the impressions then were of inferior quality.

TRAJAN'S COLUMN AT ROME, FROM AN ETCHING BY PIRANESI.

It is safe to say that, at the close of the eighteenth century, editions of Piranesi were quite as well known and as popular as those of either Stuart and Revett or the brothers Adam. And for the fact that his name subsequently declined and was almost forgotten, the extraordinary force of the romantic revival is solely responsible. Only a short time ago I chanced to come across a number of pen-and-ink drawings of my grandfather's—copies of, or variations upon, some of the semi-ruinous architectural compositions of Piranesi's. These were done about the year 1820 when he was a boy just developing a taste for drawing and an inclination towards architecture. My grandfather did not have access to any library of rare or valuable books. He must have drawn these plates just because they happened to be the readiest copies that he could get; and it seems to me probable that many another intending architect acquired the first ideas of his art in much the same way. Indeed, if one looks at the drawings and the book plates, let alone the architecture and the furniture, it is easy to see how great a hold the Piranesi vogue had upon the early years of the nineteenth century.

To attribute the classic revival entirely to Piranesi's influence would, of course, be a mistake. Mr. Samuel, in his recently published book, sometimes shows a tendency in this direction; but as the

first recent biographer of a somewhat neglected career, an occasional disposition to see Piranesi in every classic order used since his day, in England and America, is but human and not unpardonable. Piranesi did not originate the classic revival; nor could he fairly be called the father of modern

FROM AN ORIGINAL DRAWING BY PIRANESI IN THE BRITISH MUSEUM.

American architecture. His wonderful drawings gave considerable impetus to the former movement, which included the "Colonial" fashion in America; but the classic architects of to-day, however much they may value his work, have all learnt in another school.

In his lifetime he was almost one of the sights of Rome. His extraordinary personality, his impetuosity, his quarrelsomeness, his zeal in archæological research, and his wonderful skill as a draughtsman, all made him a man to be reckoned with, and one whose sayings and doings were constantly before the public. His profession was, as it were, threefold. He always called himself an architect; he devoted a large share of his energies to archæology; and he produced etchings and engravings innumerable.

As an architect he did little practical work. An alteration at the Priory of Malta at Rome, where his statue was subsequently erected, was almost his only commission. Mr. Samuel regrets that he was not allowed greater opportunities to exercise the Mistress Art, and speculates whether "with the assistance of a person properly versed in the science of building, his taste and originality would have enabled him to clothe correct construction with great beauty." That is no way to produce great architecture, and personally I do not think Piranesi would ever have made a great architect. His conceptions always seem to me to be a painter's, rather than those of an architect. By this I do not mean any disparagement of his work; for no one could have had a better understanding of the qualities of architecture than he had. But his etchings are complete works of art in themselves. They are more than mere notes of mental conceptions of form, as are architects' drawings. They are entirely pictorial; and indeed few of them could be realised in three dimensions. His mind was always full of the power, the grandeur, the sublimity of architecture; but not of architecture itself. In fact I question whether the "Carceri d'Invenzione," or some of his other wild compositions could ever have emanated from the mind of a practical architect. Such visions might possibly occur in a dream; but a sense of the limits of constructional possibility would ever be a clog upon the wheel of the imagination in any attempt to commit such fancies to paper. Piranesi's countrymen very probably were unwilling to entrust any important building to such a

capricious architect. Some of his designs, indeed, must have come in for their unfavourable and unsympathetic criticism, for he published a plate displaying a most deliberately atrocious design for a portico, upon the frieze of which runs the motto, "Novitatem meam contemnunt, ego illorum ignaviam." Whether this may be an argument for, or against, Mr. Samuel's claim that Piranesi was devoid of a sense of humour, I would not like to say.

From the moment of his first visit to Rome, Piranesi was powerfully impressed by the ruins that he saw of the city's ancient splendour. He could not keep away from them. He could not help drawing them. Besides, by selling his drawings he could help to eke out a livelihood, for antiquarianism is always the fashion in Rome. Active in intellect, he naturally came to have ideas of his own about the original states of these remains, and, his fiery nature led him into hastily formed opinions, which he would champion in many a heated controversy. But to-day Piranesi is not remembered as an antiquarian. No one cares nowadays what were his views about the Etruscans and the Greeks. Modern archæology is a science, and Piranesi's methods and temperament were anything but scientific. Tipaldo, in praising him, really lets the cat out of the bag, when he declares that Piranesi's genius enabled him to take in more by a glance of the eye than another would by a process of careful measurement. Evidently he was usually in too great a hurry to measure any of his subjects thoroughly, and must have been guilty, now and then, of arranging his premises to suit his deductions. But though his archæology is valueless in itself, it was his close study of antique detail that enabled him to produce works, such as "Vasi, Candelabri, Cippi, etc.," which were destined to bear rich fruit in furniture design both in England and all over Europe.

TRIPOD AND VASE FROM PIRANESI'S "VASI, CANDELABRI, ETC."

The peculiarity of Piranesi's genius is that, though he was really neither architect, nor archæologist, nor yet designer of furniture, his contemporary influence on all three was enormous, and on the first and third can still be felt. He was a great etcher above everything else; and the remains of ancient Rome were to him at once his inspiration and his studio properties. Yet in spite of the greatness of his powers with the needle, of his sense of the picturesque, his chiaroscuro, and the amazing visions that he could conjure up, the appeal of his etchings is more limited than, say, Rembrandt's. For whereas the subject of the latter was life itself, Piranesi only strove to express one art in the terms of another, and, to admire his etching, one must

perforce admire architecture as well. Piranesi has, indeed, been compared to Rembrandt on account of his power over chiaroscuro, and called "the Rembrandt of classical remains." And, by the way, Mr. Samuel has used a somewhat meaningless expression in this regard, "the Rembrandt of Etchers"—which he says he was called by De Quincey and Coleridge. I have not had an opportunity of verifying this, but surely "the Rembrandt of Etchers" could hardly be any other than Rembrandt himself!

For a critical survey of Piranesi's work a thorough knowledge of architecture is essential. Mr. Samuel is not an architect, and so was handicapped at the start. However, he has succeeded in avoiding many pitfalls, and perhaps the only occasion on which he makes it obvious that he is not of the profession, is when he tells his readers that "Chambers was the architect of Somerset House." A plain unvarnished piece of information like this may have been necessary for the lay reader. Mr. Samuel is the best judge of this; but any architect would surely have assumed (though possibly erroneously) that everybody knows who Sir William Chambers was, at least so far as his principal work is concerned.

Of furniture design Mr. Samuel speaks with greater knowledge, and his reference to it is perhaps the best portion of his book. He invents the generic name of "Piranesi style" to cover all those styles of furniture now known (and often wrongly) as "Adam," "Chippendale," and the rest. These fashions, he points out, were all directly traceable to Piranesi, and many of the best pieces of the period, which most resembled the antique, were among those which it is difficult to ascribe to any of the well known makers. Such, the author contends, were designed closely following Piranesi's plates, and to him the credit is due. At the same time it is to be hoped that the belated recognition of Piranesi will not in any way affect adversely the reputation of our English craftsmen. The great merit of Piranesi's work was not his power of practical design, but his fecundity of idea; while what we have to praise in our eighteenth-century furniture-makers, is that they were capable of receiving an idea, adapting it, working it out intelligently, and all without losing the best part of it.

Altogether the book which Mr. Samuel has produced is interesting and very readable; but in passing judgment upon it there are one or two matters which must be mentioned. It is too diffuse. The reader is enticed into many a pleasant, but lengthy digression, often wandering far from Piranesi himself. And this is aggravated by the total lack of subdivision of the matter into chapters, or parts; so that the reader is often left wandering about, not knowing where to make a pause, and not sure whither he is being taken. To another fault the author himself confesses in his Introduction. He admits that he has rarely given chapter and verse for his statements, nor has he always used inverted commas when he has made use of other people's. This is distinctly unfortunate, and detracts from the value of the work, so far as the student of Piranesi is concerned. On the other hand he has printed his bibliography, which is some compensation, and there is also a useful list of the various published books of the etchings and engravings at the end of the book.

Cork. HENRY H. HILL.

BUILDING ESTATE DEVELOPMENT.

The Development of Building Estates. By T. Bright. Cr. 8vo, 7s. 6d. net. [*B. T. Batsford, 94 High Holborn.*]

A study of this handbook may be recommended as likely to supply useful mental ballast after a course of the lighter literature of Town Planning. It is very well described by its title, for it deals clearly and concisely with the varied considerations affecting "The Development of Building Estates," systematically setting forth the actual processes usually followed in converting undeveloped land into streets, roads, and building sites.

Starting with the characteristics of the land itself, the author goes on to discuss the factors which control demand for building land, the schemes which may be adopted for its development, the powers of various authorities as they affect building estates, and the practical procedure in development. He then gives information as to roads and their construction and deals at some length with the important questions of valuation and general finance.

In appendices will be found contract documents for the making of a road, very completely given, forms of agreement for a building lease, and of lease, forms of restrictive stipulations, interest tables and other matters.

The book compresses into its 337 small pages a great deal of information. There is also an index of 7 pages which, while not bad, is—as in so many other books—the weakest part of the whole. As an instance of this, the Finance Act, 1909, to which the text devotes some 14 well-condensed pages of useful explanation and comment, is only indexed under "Duties on Land Values," though many other Acts are indexed by name. Again, under the head of "Town Planning" no reference is made to the very suggestive notes on pages 66 and 67 as to conditions in Germany. In text books, especially upon subjects which the student considers "dry," the index cannot be made too good; this fact is the writer's excuse for referring to the point here.

MATT. GARBUTT [*F.*]

9 Conduit Street, London, W., *4th March* 1911.

CHRONICLE.

The New Premises: Proposed Bank Overdraft.

At the Business Meeting last Monday, a motion was on the Paper asking the General Body to authorise the Council to arrange with the Institute bankers for an overdraft of any sum not exceeding £7,000, with interest at 4½ per cent., and also to charge certain property of the Institute as security. Under the new By-laws a resolution on any proposal affecting the property of the Institute can only be declared carried if there are present at least fifty members, of whom at least forty must be Fellows. Upon the President introducing the subject at the Meeting, Mr. Wm. Woodward [*F.*] asked if members present were numerous enough to constitute the quorum required for business of this kind. It being found, on a count, that the members fell somewhat short of the number required, the President suggested that, although the resolution of which notice had been given could not be voted upon, it would be an advantage if the matter were discussed on the present occasion, so that it might be dealt with perhaps more as a matter of form at a subsequent meeting. Explaining the necessity for the overdraft, the President stated that the cost of acquiring, altering, and refitting the Institute premises and buying the Architectural Union Company's shares had amounted in round figures to the sum of £30,800, and the sale of the Institute investments had produced the sum of £21,143. Owing to depreciation in value, the investments had realised less than had been expected, while the cost of the building operations had rather exceeded their expectations. Owing to these two causes it had become necessary to raise a temporary loan. The Council considered that the best course was to arrange for an overdraft, and they were asking authority to deposit the leases and the Architectural Union Company's shares as security for an overdraft of £7,000 which the Institute accountants advised would be necessary.

Mr. Woodward observed that it would probably facilitate the proceedings at the next meeting if members could be given a statement showing the £30,800 divided up into three parts—viz. (1) The cost of acquiring Messrs. Knight, Frank & Rutley's interest; (2) the cost of altering the premises; (3) the cost of acquiring the remainder of the shares of the Architectural Union Company.

The President gave the figures roughly as follows:—(1) The cost of Messrs. Knight, Frank & Rutley's interest, £10,000; (2) the cost of buying up the Architectural Union Company's shares, £13,000; (3) the cost of alteration of the premises, £7,500.

Mr. Woodward said he thought the President's statement quite sufficient and perfectly satisfactory, except that 4½ per cent., with such a security as theirs, was too much to pay for the accommodation. He should like to take the opportunity of saying, with regard to the £7,500 paid for the alteration of the premises, that he believed he was only echoing the sentiments of every member of the Institute when he said that the money had been well expended, and that their thanks were due to the architect, Mr. Hare, for the skill and ability with which he had carried out the work. (Hear, hear.) The only criticism he could offer was with regard to cloak-room accommodation, which he considered inadequate. On the last occasion when they had a full meeting the attendant apparently could not find room for all the coats and had to put some in the washhand-basins.

The Hon. Secretary (Mr. Henry T. Hare) said that that difficulty could be got over with a little organisation. In the basement, which was only about half-a-dozen steps down, there was plenty of room; and arrangements could easily be made by the cloak-room people to utilise the basement, which would give all the accommodation that could possibly be required.

The President, in bringing the proceedings to a close, said that he gathered from the informal discussion that had taken place that members were in favour of the proposal, and that the Council would arrange for the matter to be brought up again at the Meeting of the 13th March. In his opinion the Institute had done a good stroke of business, for, subject to a small fine every fourteen years, they were now practically freeholders of the premises. Unfortunately they wanted a little temporary accommodation from their bankers, but they were working at a good profit, and would soon be able to pay off the debt.

Mr. Howard Colls' Bequest.

At the same meeting, the President announced that the late Mr. Howard Colls, the eminent builder and contractor, had by his will bequeathed to the Institute a sum of £500 to be applied for certain purposes at the discretion of the President. The Council, said the President, at their Meeting that afternoon had resolved to send to the representatives of Mr. Colls a letter expressing their appreciation of this handsome bequest and tendering their sympathy and condolence with Mr.

Colls' relatives in the great loss they had sustained by his death. He felt sure that the Meeting would like to be associated with that resolution. At the request of the President, the Secretary then read the following letter from Messrs. Hyde, Tandy & Mahon, the executors' solicitors :—

"33 *Ely Place, E.C.:* 23*rd Feb.* 1911.

"*The Secretary R.I.B.A.*—

"DEAR SIR,—On behalf of the executors of the will of the late Mr. John Howard Colls, of 26 Park Crescent, Portland Place, and No. 5 Coleman Street, E.C., we have much pleasure in informing you that he bequeathed to the President for the time being of the Royal Institute of British Architects £500, subject to legacy duty, 'as a small remembrance of much friendship with members of the Architectural profession, such sum of £500 to be used and applied by such President at his absolute discretion either for educational purposes or for the purposes of the Architects' Benevolent Society.'

"Yours truly,

"HYDE, TANDY & MAHON."

The President, referring to the fact that it was for the President of the Institute to decide as to which of the two objects referred to the legacy was to be applied, said that he had asked the Vice-Presidents to assist him in coming to a conclusion, and he hoped they would come to a wise one.

The Bishop of Birmingham on Church Architecture.

In an address to the Birmingham Architectural Association at the Exchange Buildings, Birmingham, a few days ago, the Bishop of Birmingham called attention to what, in his view, are anomalies and archaisms in modern church construction from the point of view of worship in the Church of England. Having predicated that it was more important that a church should serve the purpose for which it was built than that it should be generally beautiful, Bishop Gore said it was now increasingly the custom for the minister, in performing part of the service, to stand in front of the altar, and that, he believed, was the right place. "Constantly, when I go to churches," he said, "I find myself required to stand on a ledge so narrow that I am continually obliged to recall myself from that absorption of mind in higher things which ought to be my privilege in order not to tumble off." And again: "It appears to me incredible, but it is true, that in a great number of churches communicants are made to kneel on a lower level than the person who is to administer the cup to them. And a high rail is intruded. The result is that at the most solemn moment, when you want them to be thinking about nothing except the spiritual meaning of the act they are engaged upon, and when you yourself want to be able to perform what is an exceedingly solemn act with a totally free and disengaged mind, you are entirely occupied in trying to insert a cup between a lofty rail—very likely with spikes of some kind—and under the rim of a large hat, and it is a tormenting process." The primary necessity, Dr. Gore explained, was that they should put the people, if possible, to kneel a little higher than the space which was within the rail. At least the communicants should kneel on the same level, and the rail should be low, so as not to be an obstacle.

Speaking of the place and function of windows in churches the Bishop said he had just returned from a holiday in Catalonia, where, partly from religious motives, the idea was to exclude light, and they succeeded remarkably well. But in English churches they wanted light, and they wanted a complete reconsideration of what was to be expected of stained-glass windows. These should not obscure the light and make the place dark; they should colour the light while they admitted it. It would be a rather melancholy walk, he thought, if one were to visit the stained-glass windows in Birmingham. In a vast number of cases they defeated the object of a window, especially in such a climate as ours, and having regard to the needs of the church.

Another problem the Bishop asked his audience to solve was how to make the seating in a church fill the minimum space so as to let the congregation be as numerous as possible, and at the same time to make it reasonably possible to sit and kneel without distortion. At Westminster Abbey, for instance, sitting was rather painful, but kneeling was a process of physical gymnastics which could be accomplished only by the most agile.

Bishop Gore protested against the way in which the font was relegated to "a muggy little corner," in the dim obscurity of which, after stumbling over a good many hassocks, one might discern it. Finally, speaking of church decorations, he expressed the view that it would be an advantage if much of the brass-work inserted in recent times were utterly cast out. It had been such as it was very difficult to find language adequately to describe. There should be attached to every church its architect's design for its gradual beautification or decoration, and he would add as a sort of bribe, that it should be unnecessary to obtain a faculty when the decoration was to be in accordance with the architect's design.

Reorganisation of the L.C.C. Architect's Department.

The Establishment Committee of the London County Council, reporting on the transference of the School Architect's Department to the Architect's Department, state that "the main features of the organisation of the combined departments is the division into three separate branches as follows —(1) Administrative division; (2) constructional division, other than schools; and (3) schools division. The necessary reorganisation, though affect-

ing the Department as a whole in a considerable degree, necessarily has its greatest effect in connection with the last-named division. When the Departments were fused there was a considerable quantity of arrears of educational work, but by unity of administration and correlation of similar work these arrears have been to a large extent overtaken. There is, however, a large amount of current work which constantly tends to increase, and we are satisfied that it is necessary for the fixed staff of the Department to be increased in numbers and strengthened in status in order to secure an efficient organisation, not only to deal with a urther acceleration of work, but to secure the maintenance of that acceleration on an increased programme. The net result of the staff rearrangements is to add a divisional architect, one assistant divisional architect, one principal assistant, five senior assistants, eight assistants in the first class; four assistants in the second class; and, on the other hand, to reduce the establishment by one assistant architect, one clerk of works, two non-classified assistants, and one minor establishment assistant. As against this increase, we desire to point out that, upon the retirement of certain officers in the Department within the next year or two, four positions—namely, three above the first class and one ungraded—will become vacant, and under the reorganisation proposals now submitted it will be unnecessary to fill these four positions."

International Art Congress at Rome, April 1911.

An International Art Congress, initiated by the International Artistic Association in conjunction with the Executive Committee for the Jubilee Celebrations in Italy, is to be held in Rome next month in connection with the great Art Exhibition. An International Patronage Committee consisting of distinguished authorities in the field of art and of historical and artistic studies has been constituted under the Presidentship of the Minister of Public Instruction, among the English members being Sir J. Rennell Rodd, the British Ambassador at Rome, Dr. Thomas Ashby, Director of the British School at Rome, Mr. John Belcher, R.A. [*F.*], Mr. Frank Brangwyn, A.R.A., Mr. Walter Crane [*H.A.*], Sir George Frampton, R.A. [*H.A.*], Sir Edward Poynter, P.R.A. [*H.F.*], and Sir W. B. Richmond, K.C.B., R.A. [*H.A.*].

The programme of subjects for discussion is divided into five groups as follows:—

Group I.—Problems connected with Culture and Teaching.

Group II.—Teaching of Art.

Group III.—Æsthetic and Public Art.

Group IV.—Exhibitions, Competitions, Legislation.

Group V.—Study and Experiment in Technical Processes.

The Congress will commence its sittings in April, eight days after the opening of the International Exhibition of Fine Art, fixed to take place on the 27th March, and will last eight days. The subscription fee has been fixed at 10 lire (5 lire for the wives of members).

The Administration of the State Railways will allow to members of the Congress a special pass giving the right to reduced fares.

All communications should be addressed to: Sig. Pietro D'Achiardi, Segretario Generale del Congresso Artistico Internazionale, 54, Via Margutta, Roma.

L.C.C. Central School of Arts and Crafts: Appointment of Principal.

The London County Council is inviting applications for the appointment of a Principal of the L.C.C. Central School of Arts and Crafts, Southampton Row, W.C. The person to be appointed will be required to possess high qualifications as a practical artist, and must give evidence of administrative and organising ability. He must be in touch with the industrial application of the work of the school, and will be required to give his whole time to the duties of the office. The salary will be £1,000 a year. Applications must be sent in not later than Saturday next, March 11.

Election of Licentiates.

At the Council Meeting of the 27th February the following candidates, having been found eligible under the Charter and By-laws, were elected Licentiates R.I.B.A., in accordance with the provisions of By-law 12:—

ALDRIDGE: Ernest Charles (Liverpool).
ANDERSON: Frank.
ANDERSON: Henry Lennox.
ANDREWS: Charles Henry.
ATTREE: Edward (Cardiff).
BANKS: Edgar Osborne.
BARCLAY: Ferguson (Bristol).
BATES: Francis Ross (Newport, Mon.).
BEST: Philip Lionel (Walsall).
BLACK: John Alexander (Middlesbrough).
BOTTOMLEY: John Mitchell (Leeds).
BRETT: Ernest John (Wimborne).
BRINSON: Samuel Pierpont.
BROWN: George Lawton (Leicester).
BURKE: Martin Joseph (Dublin).
CARFRAE: John Alexander (Edinburgh).
CHRISTIE: David (Hull).
CLARKE: William Lee.
CLAYTON-GREENE: Clare Arnold (Sunderland).
CLIFTON: Leonard Winton (Khartoum).
CURLING: Robert Francis.
DOBSON: Thomas Henry (Cardiff).
DODD: John Frederick (Long Eaton).
DONALDSON: Robert Charles (Sydney, N.S.W.).
EVANS: Frank Culling.
FAIRWEATHER: Hubert Moore.
FORREST: George Topham (Newcastle-on-Tyne).
FORSHAW: Edward (Burton-on-Trent).
FOWLER: Reginald Henry (Louth, Lincolnshire).

FREEMAN: Percy Benjamin French.
GARLICK: Francis John.
GARRETT: Thomas (Brighton).
GIBSON: William Henry (Johannesburg).
GOODACRE: John Frank (Ashby-de-la-Zouch).
GOODALL: Abraham Harrison (Nottingham).
GORDON: Walter S. A.
GRAY: George (Inverurie, N.B.).
HACKETT: John Josephus (Birmingham).
HALL: Joseph Lockwood (Durban, Natal).
HAY: George Morrison (Hongkong).
HEAPE: Robert Grundy (Manchester).
HENMAN: Charles Henry Rowed.
HINCHLIFFE: George Eastwood (Halifax).
INOTT: Harold William (Sheffield).
JAMIESON: George.
KENWORTHY: William Whiteley (Wallasey).
LAWRENCE: Edwin Cecil (Nottingham).
LONGBOTTOM: William Wormald (Halifax).
LONGDEN: Reginald Thelwall (Burslem).
LOVEDAY: Arthur (Newark).
LUMSDEN: David Adams (Cardiff).
MACKINNON: Walter (Calcutta).
MANSFORD: Frederick Herbert (Ruislip).
MARSHALL: Arthur James (Johannesburg).
MARTIN: A. E.; Westmount, Montreal, Canada.
MATSON: William (Liverpool).
MEREDITH: Edward William (Sheffield).
MILNE: Oswald P.
MORRIS: Henry Silver (Reading).
MOSSMAN: Thomas Rollo Walker.
MURRAY: John (Liverpool).
MUSCHAWECK: Gottlieb R. C. (Cardiff).
NEIGHBOUR: Sydney William.
NEWMAN: Bernard Leigh (Shanghai).
POYSER: John Rigby (Nottingham).
PRIOR: Arthur Sparks.
QUIBELL: Alexander George Albert.
RAFFLES: Winter Hargreaves.
REEVES: Augustus Seymour (Warwick).
REYNOLDS: James Gilbert (Salisbury).
RICE: Frederick David.
ROQUES: Antoine William.
ROYLE: Fred Murray (Nottingham).
SHARP: Arthur Dalton.
SHAW: Walter (Northampton).
SHEPHEARD: Thomas Faulkner (Liverpool).
SMITH: Ernest Alfred (Nottingham).
THOMSON: David.
UREN: Frederick Candy (Aldershot).
WARDE: William Job.
WARE: George (Liverpool).
WEBB: Bernard Hugh.
WELLS: William John (Farnham).
WHITE: George (Edinburgh).
WILKINSON: Lewis Henry (Bradford).
WILLIAMS: John Close (Liverpool).
WILLIAMS: Thomas Alfred (Chester).
WILSDON: William John.
WORRALL: Arthur William (Wolverhampton).
WRIGHT: Osborn.
YEMAN: Albert Edward.

International Competition for Designs for a "Palais de Justice" at Athens.

With further reference to the competition which is being promoted by the Hellenic Government for designs for the proposed Palais de Justice to be erected at Athens, details of which were given in the JOURNAL for 4th February last, the Greek Minister in London sends to the Institute, for the information of intending competitors, a copy of the Government Gazette containing a plan of the site of the proposed building and its surroundings. The Gazette also gives notice of an extension of time for sending in designs from 8th/21st August to 12th/25th September.

LEGAL.

Dry-Rot in Floors: Architect's Liability.

LEICESTER BOARD OF GUARDIANS *v.* TROLLOPE.

Mr. JOHN E. TROLLOPE [*F.*], in a letter addressed to the Council, writes:—

The report of my case in the last number of the JOURNAL gives a very wrong impression as to the alleged agreement on my part to put matters right when the floor-boards were first taken up to search for the cause of the dry-rot. It was then first discovered that a deviation from the drawings and specification in the method of laying the floors had been made, which had without any possible doubt been the cause of the dry-rot; but at this time there was no suspicion of any scamping, and on the assumption that I should have no difficulty in recovering from the contractors I undertook to see the matter put right, a work which would involve the taking up of the floor-boards and relaying them on a proper bed of concrete in accordance with the specification. On the completion of one ward nothing was discovered beyond the deviation referred to, but on proceeding further with the work such wholesale scamping was revealed that I declined to proceed further, on the ground that when I agreed to get the matter put right any scamping was unsuspected, and that the deviation in the method of laying the concrete was the only matter referred to in my offer, and in no event did my offer include the doing of work which was unsuspected at the time my offer was made. I therefore gave notice that I declined to proceed in the face of the disclosure of the fraud that had been perpetrated. This was my reason for stopping the work, and not, as suggested in the report in the JOURNAL, that I stopped because I found the work was costing too much. If there had been nothing beyond the deviation in the method of the laying of the concrete I should have completed the work.

The fact that the clerk of works was appointed by the Guardians, without consulting their architects, paid by them and subject only to dismissal by them, is a point—a most important one to my mind—which is not given sufficient prominence in the report in the JOURNAL.

I have fought a good fight, at enormous expense, in the interests of the profession at large, and lost; but the decision is so bad in law and equity that I do not think the case ought to be allowed to remain where it is. Personally, however, it is impossible for me to do anything further, for purely pecuniary reasons.

MINUTES IX.

At a Special General Meeting held Monday, 27th February 1911, at 8 p.m. : Mr. Leonard Stokes, *President,* in the Chair; entered in the attendance-book the names of 18 Fellows (including 9 members of the Council), 15 Associates (including one member of the Council), and 2 Licentiates : The Chairman announced that the Meeting was convened, pursuant to By-law 70, to elect the Royal Gold Medallist for the current year, and having moved in accordance with notice that Dr. William Dörpfeld [*Hon. Corr. M.*], Athens, be elected for the honour, it was unanimously

RESOLVED, that subject to His Majesty's gracious sanction the Royal Gold Medal for the promotion of Architecture be awarded this year to Dr. William Dörpfeld [*Hon. Corr. M.*], of Athens, in recognition of his distinguished services to architecture.

The Special Meeting then terminated.

At the Ninth General Meeting (Business) of the Session 1910-11, held Monday, 27th February 1911, at the conclusion of the Special General Meeting above referred to, and similarly constituted, the Minutes of the Meeting held 13th February were taken as read and signed as correct.

The Hon. Secretary announced the decease of Colonel Eustace Balfour, *Fellow* elected 1892, and Alfred Robert Pite, formerly *Fellow*, and father of Professor Beresford Pite [*F.*] and Wm. A. Pite [*F.*], whereupon it was resolved that a vote of sympathy and condolence be passed to the near relatives of the late members.

The Hon. Secretary further announced the decease of James George Smither, elected *Fellow* 1868, and placed on list of Retired Fellows in 1899.

The Hon. Secretary formally acknowledged the receipt of books presented to the Library, and a vote of thanks to the donors was passed by acclamation.

The President announced that the late Mr. John Howard Colls had bequeathed to the Institute the sum of £500 to be applied at the discretion of the President of the Institute either for educational purposes or for the purposes of the Architects' Benevolent Society : whereupon, on the motion of the President, it was resolved that the thanks of the Institute be conveyed to the relatives of Mr. Colls for his bequest, together with an expression of the Institute's sympathy and condolence with them in their bereavement.

The following candidates were elected by show of hands under By-law 10 :—

AS FELLOWS (4).

BUDDEN : Henry Ebenezer [*A.* 1895] (Sydney).
CORBETT : Alfred Edward [*A.* 1897] (Manchester).
HUGHES : Augustus Edward [*A.* 1902]
KIRKBY : Reginald Guy [*A.* 1902] (Huddersfield).

AS ASSOCIATES (2).

BAYLEY : Benjamin Charles Ernest [*Special Exam.*].
GRAY : James Henry [*S.* 1907].

AS HON. ASSOCIATE

PAGET : Sir Richard Arthur Surtees, Bart.

The following candidates, being found eligible and qualified according to the Charter and By-laws, were recommended for election—viz. : As FELLOWS (3) : Thomas Geoffry Lucas [*A.* 1899]; John Brightmore Mitchell-Withers [*A.* 1891] (Sheffield); William Henry Watkins [*A.* 1903] (Bristol). As ASSOCIATES (53) : Alexander Adam [*S.* 1907] (Glasgow); Leonard Barnish [*S.* 1903] (Liverpool); Richard Thomas Beckett [*Qualified* 1890] (Chester); William Beswick [*S.* 1908] (Chester); Stanley Birkett [*S.* 1905] (Manchester); Henry Edgar Bunce [*S.* 1908]; Charles Frederick Butt [*S.* 1908]; George Ralph Carter [*S.* 1908] (Leicester); James Hubert Chaundler [*S.* 1905]; Frank Louis Whitmarsh Cloux [*S.* 1906]; William Victor Coates [S. 1908] (Grimsby); Kenneth Arthur Cockrill [*S.* 1908] (Gorleston); Leslie Douglas Coombs [*Special Examination*] (Dunedin, New Zealand); William Harold Cranford [*S.* 1907]; Philip Wolf Davis [*S.* 1907]; George Drysdale [*Special Examination*]; Thomas Glynne Evans [*S.* 1908] (Liverpool); Ernest Budge Glanfield [*Special Examination*]; Edwin Stanley Hall [*S.* 1907]; Percy William Hathaway [*Special Examination*] (Rochdale); Leonard Keir Hett [*S.* 1909]; William Thomas Higgins [*S.* 1906]; Claude Vivian Hodges [*S.* 1905] (West Bromwich); Thomas Harold Hughes [*S.* 1909] (Aberdeen, N.B.); Francis Seymour Hulbert, B.A. Cantab. [*S.* 1909]; Cyril Montagu Jones [*S.* 1906]; Percy Kingsford Kipps [*S.* 1906]; Thomas Arthur Lodge, jun. [*S.* 1909]; Maurice Lyon, B.A. [*S.* 1907]; Leslie Mansfield [*S.* 1908]; John Gray Martin [*S.* 1906] (Oldham); Kenneth William Matheson [*S.* 1904]; Bernard Frank Matthews [*S.* 1909] (Southsea); Ernest Josiah Edwards Moore [*S.* 1906] (Cardiff); Francis Edwin Spencer Munt [*S.* 1906]; Joseph Peascod [*Special Examination*]; William Jackson Pywell [*S.* 1907] (Brighton); Norris Bathgate Robertson [*S.* 1908] (Leicester); John Frank Schofield [*S.* 1905]; Norman Fraser Shanks [*S.* 1907] (Manchester); John Alan Slater, M.A. Cantab [*S.* 1908]; Frank William Smith [*S.* 1908] (Newark-on-Trent); Cecil Alfred Leonard Sutton [*S.* 1909] (Nottingham); Edwin John Tanner [*S.* 1909]; Charles William Ward Thompson [*Special Examination*] (Chatham); Sydney Tugwell [*Special Examination*] (Bournemouth); Marshall Eyre Walker [*S.* 1907]; Herbert Arthur Welch [*S.* 1907]; George Taylor Wellburn [*Special Examination*] (Middlesbrough); Joseph Horace Lyneham Wheatley [*S.* 1906] (Petersfield); Herbert John Wilson [*S.* 1905] (Peterborough); Arthur Winch [S. 1909] (Leeds); Edward Leslie Wright [*S.* 1906] (Cardiff).

The next business on the agenda being a motion affecting the property of the Institute, which under By-law 67 can only be carried if there are present at least 50 members of whom at least 40 must be Fellows, a question was raised by Mr. William Woodward [*F.*] as to whether the quorum required under the By-law was present, and it being found, upon a count, that only 35 members were present, the President ruled that the business could not be proceeded with, but that the proposal contained in the motion might be informally discussed.

The Meeting having discussed the proposal and expressed itself in favour of its adoption, the President announced that the motion would be brought forward at the next meeting.

The proceedings closed at 8.30 p.m.

Sir CHARLES NICHOLSON, Bart. [*F.*] has been appointed consulting architect to the Dean and Chapter of Lincoln Cathedral.

Mr. H. H. WIGGLESWORTH [*F.*] has had conferred upon him the distinction of Knighthood of the First Class of the Royal Order of Wasa. The investment took place at the hands of the Swedish Minister in London on the occasion of the consecration of the Swedish Church, Harcourt Street, Marylebone, of which Mr. Wigglesworth is the architect

PART OF A DRAWING FOR A CHIMNEY-PIECE. PROBABLY BY INIGO JONES.

THE BURLINGTON-DEVONSHIRE COLLECTION OF DRAWINGS, WITH SPECIAL REFERENCE TO THE RELATIONS BETWEEN INIGO JONES AND JOHN WEBB.

By J. A. Gotch, F.S.A. [*F.*]

Read before the Royal Institute of British Architects, Monday, 13th March 1911.

AT a General Meeting of the Royal Institute on 27th June 1892 this collection of drawings was first exhibited to the members, and on the 17th December 1894 they were by a Declaration of Trust placed in the custody of the Institute. We are indebted to Mr. J. D. Crace for this valuable addition to our Library, and you will no doubt be interested to hear his own account of how the permanent loan of them came about. Mr. Crace writes :—

"On the death of the 7th Duke* (December 1891) it fell to me to value the works of art in the several mansions ; and in February 1892 I was so engaged at Chiswick House, where was this collection. It was kept in four mahogany boxes ; and when I came to examine them, I found the drawings all mixed promiscuously in utter disorder.

"Lady Louisa Egerton, the late Duke's daughter, who of all the family was the one who knew most about his art collections, came down to Chiswick to give me any information she could ; and I took the opportunity of representing to her that these drawings, thrown into confusion by casual visitors, were chiefly valuable to architects, and that their value was much diminished by their disorder. She invited me to say how they could be rendered more really serviceable, and I then told her quite frankly that I thought that such a collection, in the keeping of the Royal Institute of British Architects, could be made accessible to those to whom they were really of great interest.

"She undertook to talk the matter over with her brother (the new Duke). The result was, that his Grace consented to make the architectural drawings a 'gift in trust' to the Institute (without power of disposal), reserving to himself Inigo Jones's drawings for scenery for the 'masques' of Charles I. These last are now at Chatsworth : but I believe that a few remain in the R.I.B.A. collection."

* Of Devonshire.

On the occasion of their first exhibition, Mr. Crace gave a short description of them, and added a sort of descriptive inventory, for which I refer you to our Proceedings, Vol. VIII. New Series, p. 366. Attached to the Declaration of Trust is a schedule, which you will find printed at length in the JOURNAL, Vol. II. Third Series, pp. 183–185. The Schedule enumerates 17 bound volumes of drawings, mostly by Palladio ; and two boxes of miscellaneous drawings in number about 295. Reverting to Mr. Crace's description, he concludes his remarks on these loose drawings by saying, " These boxes require careful sorting before any satisfactory list of the contents can be made."

It is these unsorted drawings which are the subject of the present paper. They have now all been sorted and arranged in, I hope, an intelligible manner ; and they have been numbered, so that the classification may be preserved, or perhaps improved, should further light be thrown upon the few which are still obscure. We have in preparation an annotated catalogue, which, had not time been against us, would have accompanied this paper ; but we hope to get it printed in an early number of the JOURNAL.

They are of very great interest, being connected largely with our own Inigo Jones, and his relative and assistant, John Webb. They will be found, I think, to throw some curious and, perhaps, unexpected light upon the relations of the two men.

Besides the drawings germane to this subject, there are others which time does not now permit me more than to mention. Among them are other interesting drawings by Webb ; four designs for triumphal arches erected in celebration of the Restoration of Charles II. ; drawings of the Roman baths, apparently utilised for Lord Burlington's publication : * carefully finished drawings of the Assembly Rooms at York, the design of which is claimed for Lord Burlington, and of General Wade's house in Cork Street, also attributed to Burlington, of which Lord Chesterfield said (in consequence of its being ill-contrived, but adorned with a beautiful front), " as the General could not live in it to his ease, he had better take a house over against it, and look at it." There are also other miscellaneous drawings, some English and some Italian ; several of the latter illustrate the Villa Papa Giulio near Rome.

These are all interesting, and will repay a more careful investigation than I have been able to give them on the present occasion. To-night the drawings connected with Inigo Jones and Webb will afford ample food for reflection.

The two best known and most important collections associated with the name of Inigo Jones are those at the Royal Institute and those at Worcester College, Oxford. It is a curious fact that a careful investigation of both collections goes to show that they are both more closely connected with John Webb than with Inigo Jones.

Indeed, it is highly probable that they are the two halves of the same original collection. It is said that Dr. Clarke, who bequeathed his architectural books and drawings to Worcester College, bought the latter from the widow of Webb's son : apparently Lord Burlington gained possession of part of the same set ; for although there are no drawings in the one collection that clearly ought to belong to the other, yet there are links between them ; for instance, there are in the Worcester collection at least two small preliminary sketches for doorways which, to a large scale, are included in the Burlington-Devonshire collection. Lord Burlington evidently supplemented his portion of the Webb drawings by others from different sources, notably by Flitcroft's careful drawings for Kent's publication of Inigo Jones's designs, to which reference will be made later.

The original Webb collection, which (if my conjectures are right) was thus divided, consisted mainly of Webb's own drawings, but among them were a certain number made by his venerated master.

* *Fabbriche Antiche designate da Andrea Palladio*, 1730.

References occur in one or two books to some drawings by Jones preserved in the Soane Museum, but from a careful investigation recently made in company with Mr. Walter Spiers, the Curator of the Museum, there is great doubt whether any of these drawings were made by Jones. In particular, those of King Charles's block at Greenwich, held by some to be Jones's original design for that building, must have been made at a much later date, as I hope presently to show.

Our own collection illustrates in a most interesting manner the changes which had come over the methods of house-design as compared with what is to be found in the Thorpe and Smithson collections. It shows in what a new way the design both of plan and elevation was approached; how all-important accurate proportion was considered; and how profound an influence Palladio now exercised on design both in methods and results. But this is not the aspect upon which I propose to dwell to-night: rather will I request your attention to the light thrown upon three other highly interesting points:—

1. The draughtsmanship of Inigo Jones.
2. His relations with John Webb.
3. The authorship of the design of the second portion of Greenwich Palace, known as King Charles's block.

There are not many drawings left which are actually signed by Inigo Jones. In the Burlington-Devonshire collection there are five, all architectural subjects. But there are others bearing his handwriting, and these may safely be attributed to him. A study of these goes to show that neat architectural draughtsmanship was not his strong point. There are three, indeed (a porch signed "Inigo Jones: fecit 1616," a certain house signed "Inigo Jones," and the west front of St. Paul's Cathedral, unsigned), which are surprisingly poor stuff for so great a man to have produced. The porch, dated 1616 [fig. 1], was drawn after his final return from Italy, when he was 43 years old, and after he had studied the masterpieces of Italy. The west front of St. Paul's [fig. 2] was begun some fifteen years later, in 1631. The design is classic in treatment, and was to be applied to a Gothic building. This in itself was no great fault, inasmuch as classic was becoming the prevalent style, and Jones had no competent knowledge of Gothic. But the design itself is a curious medley. The lower storey is well-proportioned and interesting. But the upper storey is a wonderful mixture of incongruities. The great scrolls are as much too large in scale as the lanterns which crown the towers are too small. The three central windows are rather overpowering, and the arch of the middle one bites into the frieze above it with indefensible voracity. I venture to think that no one on seeing this drawing would take it to be the work of a master in architecture. Curiously enough, when the work was carried out, the lower storey was masked by a widely projecting columnar portico of good design; while the upper storey was carried out very much as drawn, but with a few improvements. These will be readily seen on comparing the drawing with Hollar's view or with Kent's elevation, which agree, on the whole, tolerably closely.

John Webb expressly credits Jones with the (then) recent improvements to St. Paul's: he was, he says, "the sole Architect . . . who, in faithful Discharge of that Trust reduced the Body of it from the Steeple to the West End into that Order and Uniformity we now behold; and by adding that magnificent Portico there, hath contracted the envy of all Christendom upon our Nation, for a Piece of Architecture, not to be paralell'd in these last Ages of the World."

The drawing of the house (signed by Jones) shows a small building of no great architectural pretensions, a columned portico being the only feature having any detail of consequence. It would probably have been designated "a lodge," and it was, like many houses of the time, rather an exercise in proportion than an attempt to provide suitable accommodation for daily wants.

It is curious that of the five signed drawings two should give so inadequate an idea of the

master's power. Two of the other signed drawings give the details of a gateway for Lord Lincoln at Weybridge. It will be sufficient to illustrate the design of the front, which shows a massive, well-

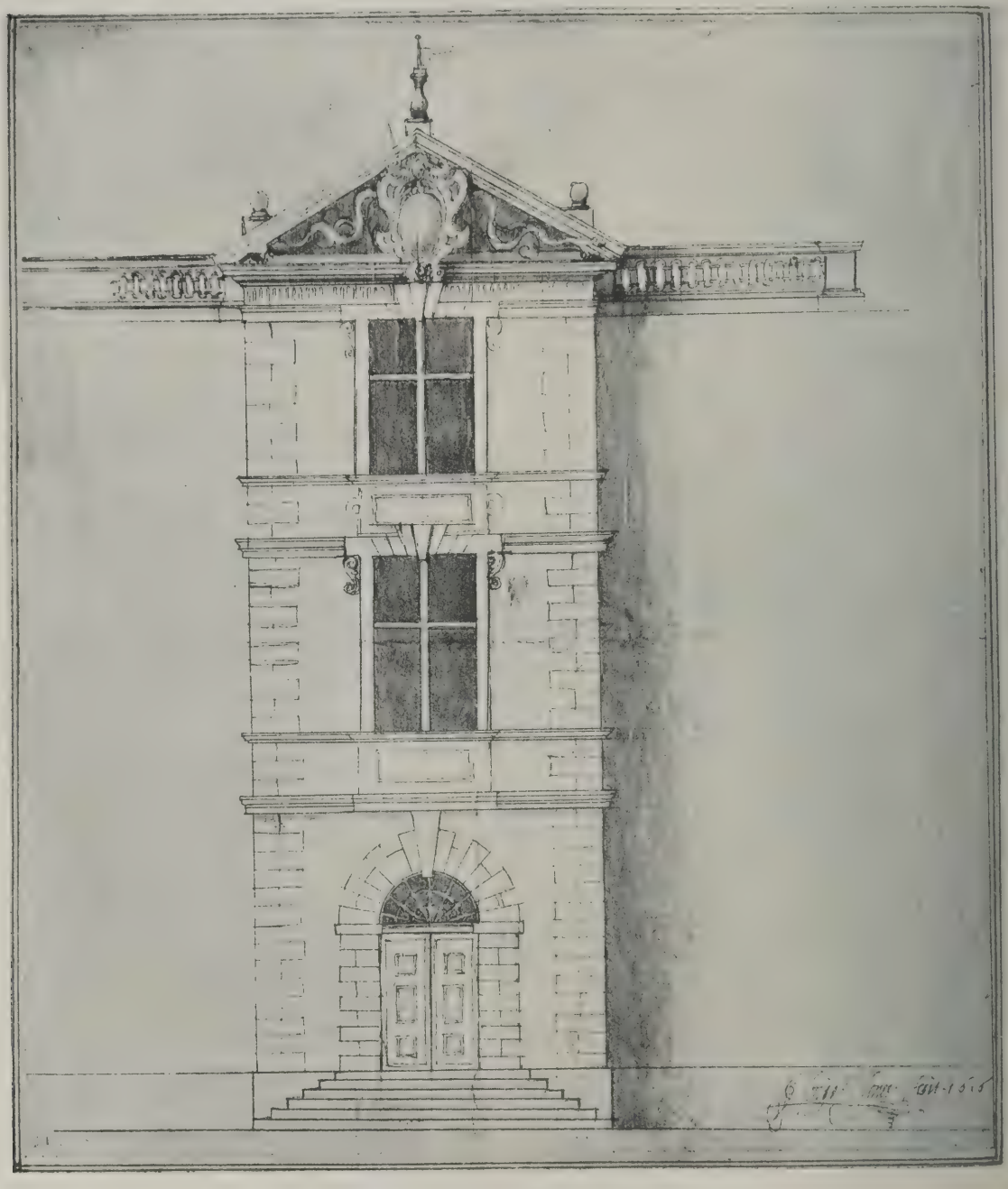


FIG. 1.—DRAWING OF A PORCH. SIGNED "INIGO JONES: FECIT 1616."

proportioned archway [fig. 3]. It is true that, if it were the work of a less famous man, exception might be taken to the woolly masses that adhere to the pillars and the cornice. There are, however, precedents for this particular treatment in some of Serlio's designs. There is a certain

amount of freehand drawing in this example ; and in those which follow it is still more in evidence, and the conclusion to which all these drawings point is that Jones was much more at home with his pencil and pen than he was with his tee-square and compasses. He was at his best in his sketches for carving, and particularly in those of the human figure [figs. 4, 5, 6]. His cupids, his caryatides, and his busts are touched in with a skill and facility that would have done credit to any of his beloved Italian masters. Where straight or formal lines were required, he was happiest

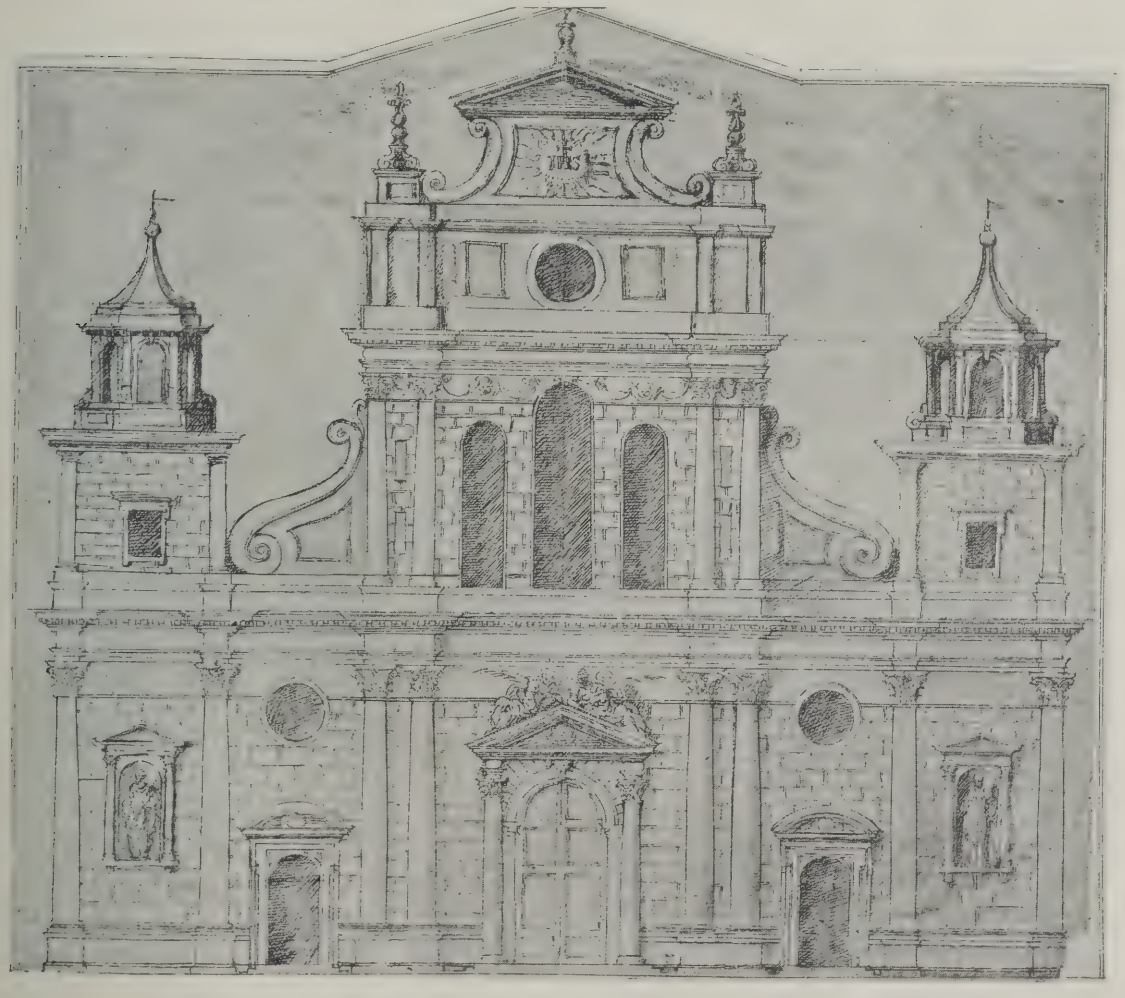


FIG. 2.—SKETCH FOR THE WEST FRONT OF ST. PAUL'S CATHEDRAL. PROBABLY DRAWN BY INIGO JONES.

when he ruled them in with his ordinary pen, or even dispensed with a ruler and got them as straight as he could with his unaided hand [fig. 7]. There is one drawing (of a chimney-piece) attributed to him where all the carving, including cupids and angels, has been admirably sketched in and shaded, while the architectural members are only faintly indicated, and have been left for a more mechanical person to finish ; but the mechanical person never did his work, and the drawing remains incomplete.

This view of Jones's draughtsmanship is strengthened by his sketch-book, preserved at Chats-

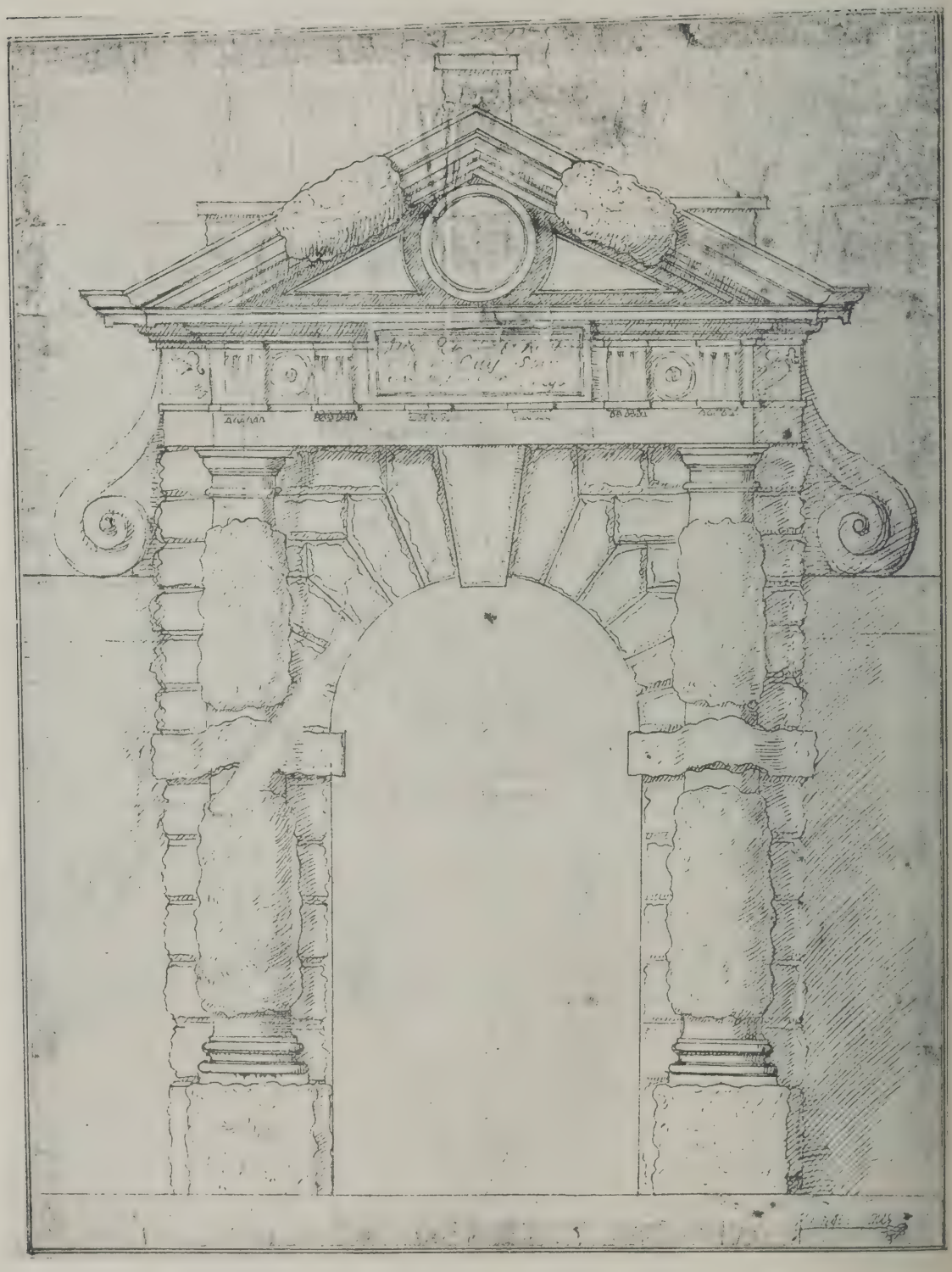


FIG. 3.—DRAWING OF A GATEWAY AT LORD LINCOLN'S, WEYBRIDGE. SIGNED "INIGO JONES."

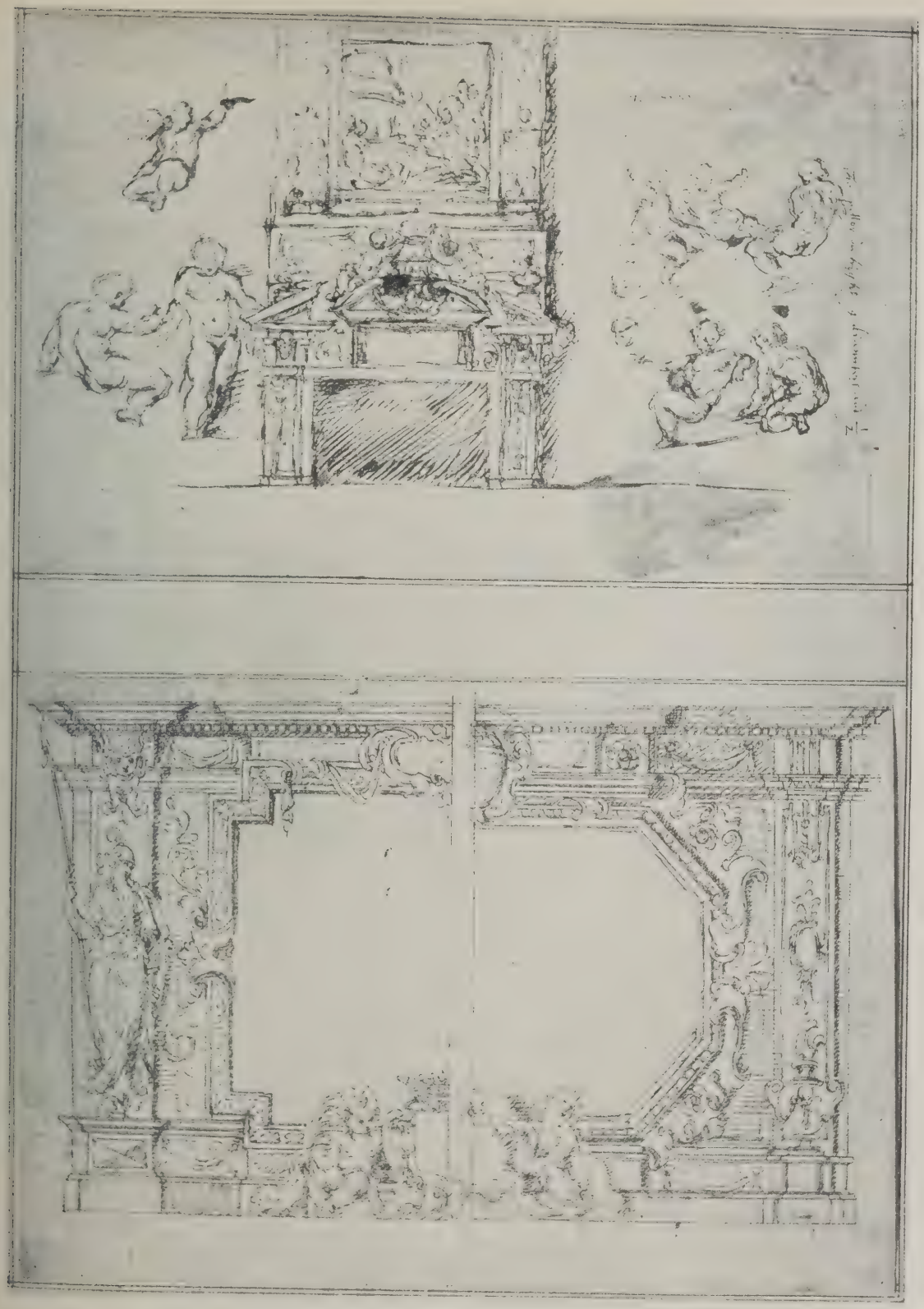


FIG. 4.—SKETCH FOR A CHIMNEY-PIECE "FOR GREENWICH." SKETCHES FOR AN OVERMANTEL. BY INIGO JONES.

In the panel over the curved pediment of the upper drawing are the letters H.M.R., for Henrietta Maria Regina. The "Queen's House" at Greenwich was finished for Queen Henrietta Maria.

The overmantel in the lower drawing may also have been for Greenwich, as there is an initial M at the base of the right-hand pilaster.

worth, of which a few facsimile copies were made, one of the number being now at the Soane Museum. In this little collection there are none but freehand drawings, and those mostly of the human figure and costume, all done with great skill and freedom.

Curiously enough, John Webb, in his "Vindication of Stone-Heng Restored," expresses the same view of his master's drawing: "Mr. Jones," he says, "was generally learned, eminent for Architecture, a great Geometrician, and in designing with his Pen (as Sir Anthony Vandike used to say), not to be equalled by whatever great Masters in his Time for Boldness, Softness, Sweetness and Sureness in his Touches."

We now come to the relations of Inigo Jones and John Webb. Jones was the uncle of Webb, and took the lad into his office in 1628, when he was seventeen years old.* It is assumed, and probably with truth, that Webb remained working with his uncle until the latter's death in 1652. Webb became a very excellent architectural draughtsman: and if the estimate of Jones's powers in this direction suggested by these drawings be correct, Webb must have been his right hand. Webb has always been regarded as a pale shadow of Jones. He himself had an unbounded admiration for his master, and asserted that Jones's reputation abroad was greater than it was at home. His contemporary, Evelyn, speaks of him as "Mr. Webb (Inigo Jones's man)."† But an unprejudiced examination of the Institute drawings and those at Worcester College seems to lead to the conclusion that, in spite of the depreciatory attitude of those who have written about Webb, a little reputation ought to be added to his stock, and perhaps a corresponding little deducted from that of Inigo Jones.

In speaking of the architects in the reign of George II, Horace Walpole says, "It was in this reign that architecture resumed all her rights. Noble publications of Palladio, Jones, and the antique, recalled her to true principles and correct taste."‡ Many of the drawings for those noble publications are in the Institute collection, for it was the well-known Lord Burlington who, directly or indirectly, produced the publications, and the drawings, which were, on the whole, carefully preserved, have now found a resting-place within these walls.

The works of Jones to which Walpole refers were, no doubt, those comprised in the two volumes of Kent, entitled "The Designs of Inigo Jones consisting of Plans and Elevations for Publick and Private Buildings. Published by William Kent, with some additional designs, 1727." The first volume contains seventy-three plates, of which the first fifty-two are devoted to the great palace at Whitehall: the next ten to windows, doorways, gate-piers, and a design for Temple Bar. All these are credited to Jones. The remaining eleven plates are devoted to designs by Kent himself for chimney-pieces and internal decorations, and to Lord Burlington's designs for his villa at Chiswick.

Of the designs attributed to Jones, the Institute possesses no originals of any of the Whitehall series: of the other ten plates we have the drawing of Temple Bar, and perhaps of one doorway. In regard to Temple Bar, we have the careful drawing used by the engraver, P. Fourdrinier, and also a preliminary sketch which, if not entirely the work of Jones, was almost certainly endowed by him with its panels of sculpture. On the back of the finished drawing are further sketches for the sculptured panels. There is yet a third drawing, intrinsically less interesting than the other two, inasmuch as it merely shows the construction of the brick core of the building, but yet of much interest as being signed by Inigo Jones beneath the following note, "Purfill [profile] of the Arch tempell barr how the brickwork is to bee within, 1638."

The finished drawing may be by Webb, and the panels on the back by Jones.

The second volume of Kent is, perhaps, of more interest to us, inasmuch as we have the

* Chancellor's *Lives of British Architects*, p. 93.

† *Diary*, 19 Oct. 1661.

‡ *Anecdotes of Painting*, vol. iv. chap. vi.

originals of nearly all the plates. There are sixty-three plates, of which the first fifty are of houses and palaces attributed to Jones. Then follow three of Lord Burlington's work. Then three of the west front of St. Paul's, the elevation of which closely resembles the drawing already referred to [fig. 2]. The last seven are of a church attributed to Palladio.

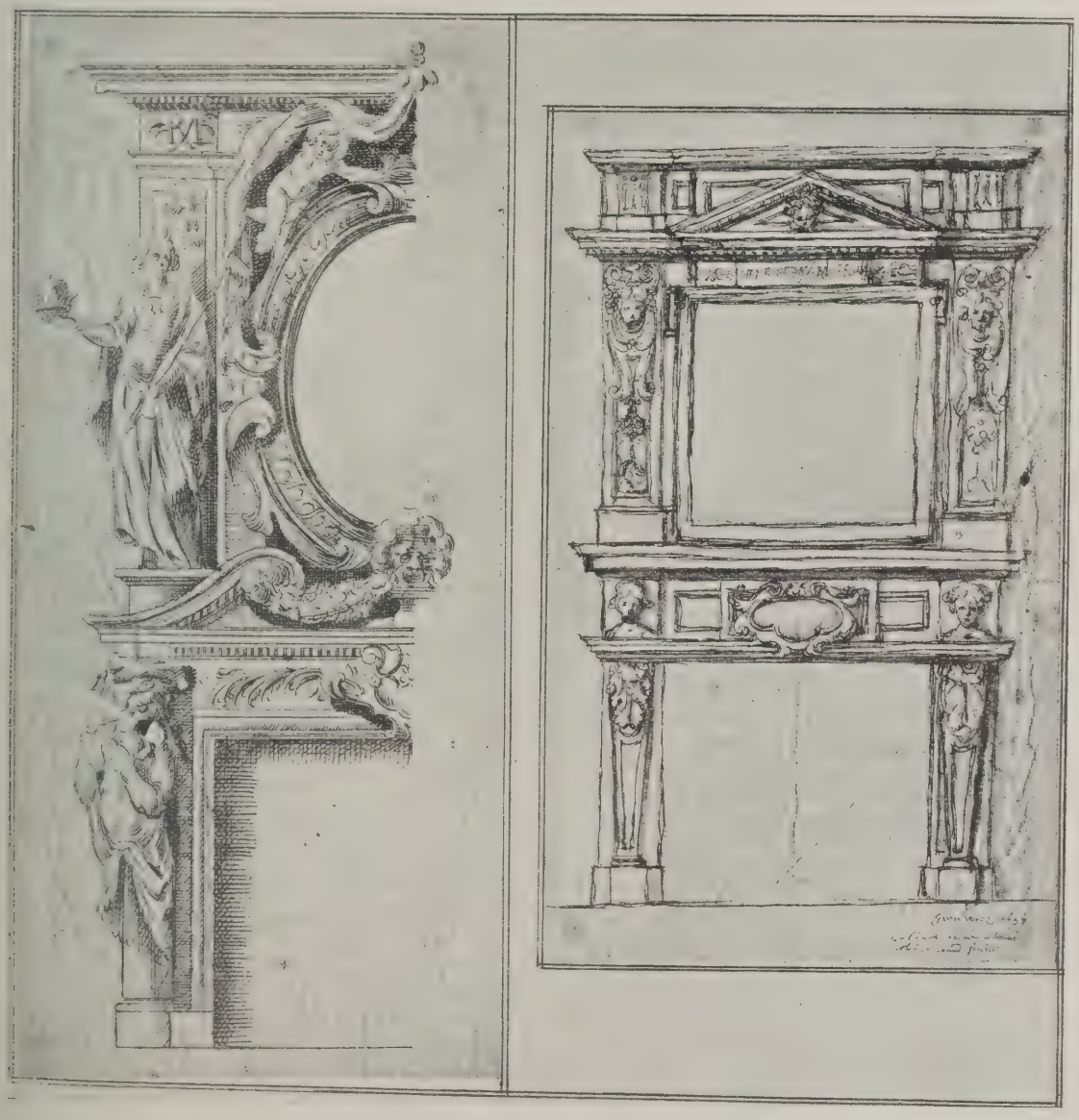


FIG. 5.—SKETCHES FOR TWO CHIMNEY-PIECES. BY INIGO JONES.
The right-hand sketch may certainly be attributed to Jones.
The left-hand sketch is also probably by him.
On the right-hand drawing is written, in Jones's hand, "Grenwich, 1637. Cabinet roome abouve behind ye round staier." In the panel beneath the pediment is "Henrietta Maria Regina."
On the left-hand drawing, in the corner of the upper frieze, is the cypher MARIA.

The plates representing Jones's work are inscribed at the foot, in the left-hand corner "I. Jones, architectus"; in the middle "H. Flitcroft delin"; and in the right-hand corner "H.

FIG. 6.—SKETCHES FOR FRIEZES BY INIGO JONES.

Beneath the topmost sketch is written, in Jones's hand, "For freeses at Wimbelton, part of Relieve parte painted."

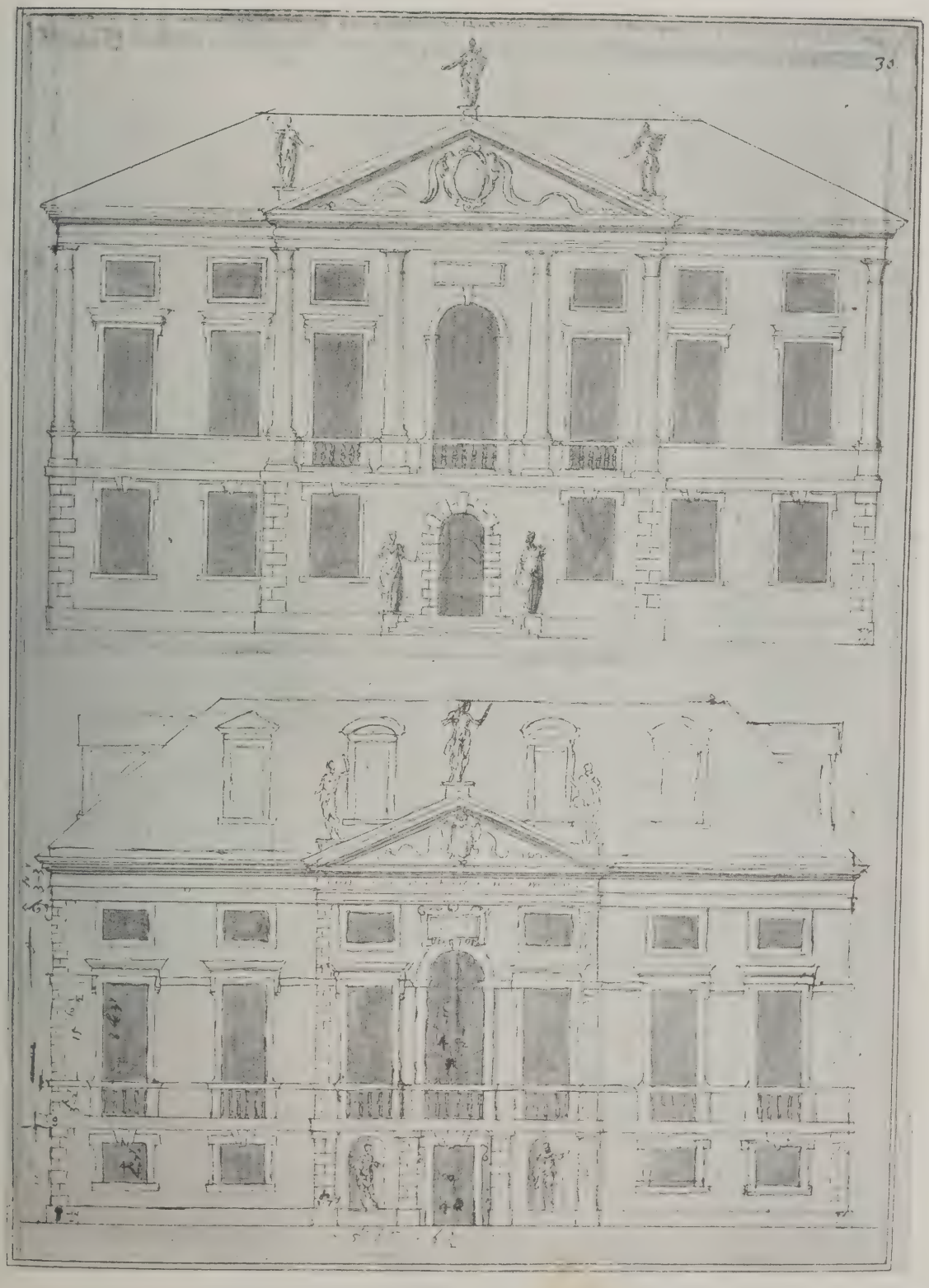


FIG. 7.—TWO SKETCHES FOR A HOUSE. PROBABLY BY INIGO JONES.

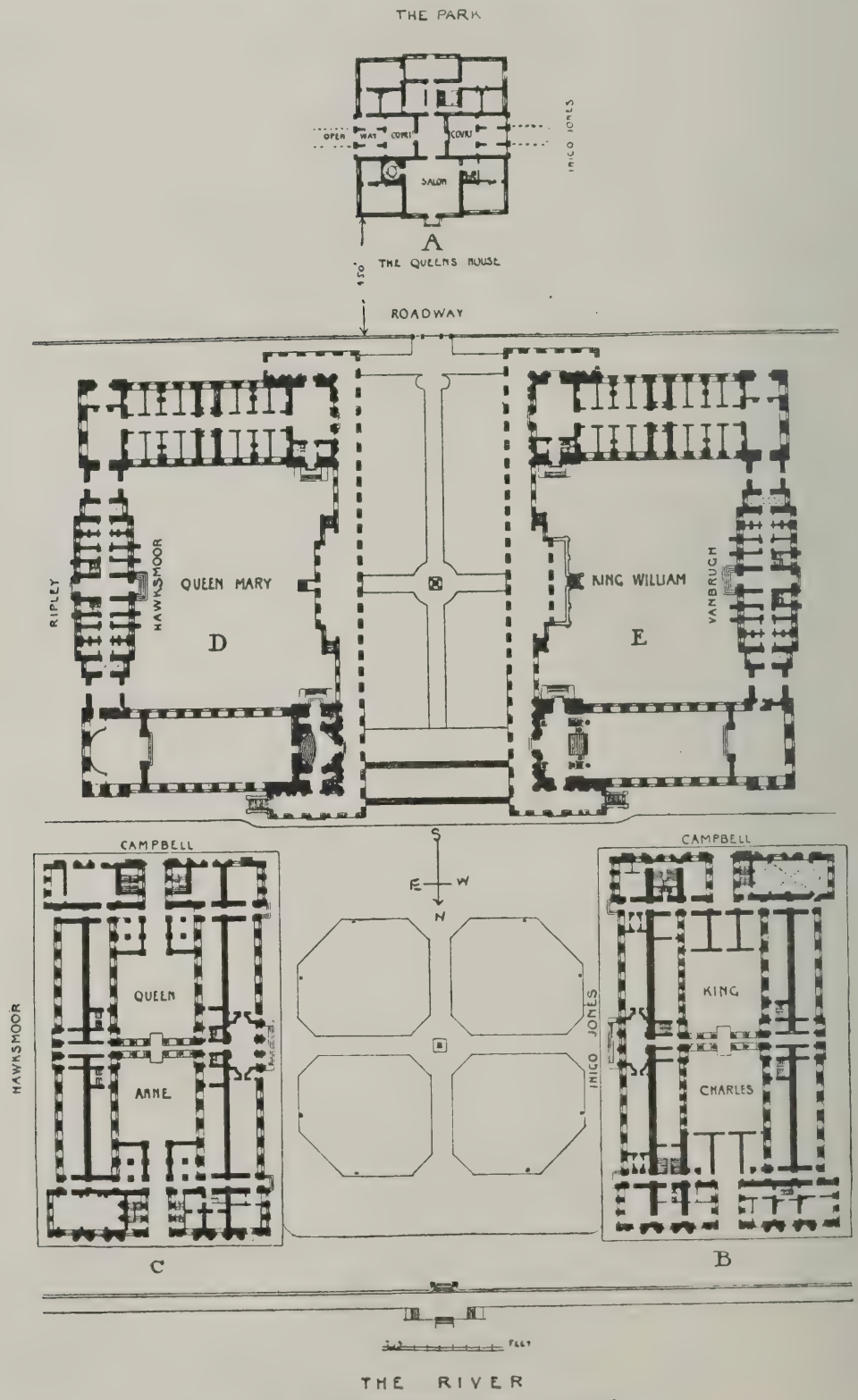


FIG. 8.—PLAN OF GREENWICH PALACE (AS EXISTING).
From Belcher and Macartney's "Later Renaissance Architecture in England."

Hulsbergh, sculp." Hulsbergh, therefore, engraved them about the year 1727 from drawings made by Flitcroft. But where did Flitcroft get his particulars from ? Jones, it must be remembered, had been dead seventy-five years. Did Flitcroft, or Kent, or someone on their behalf, go about the country and make measured drawings of buildings known to have been designed by Jones ? If not, whence did they get their material ? Fortunately, we are able to answer this

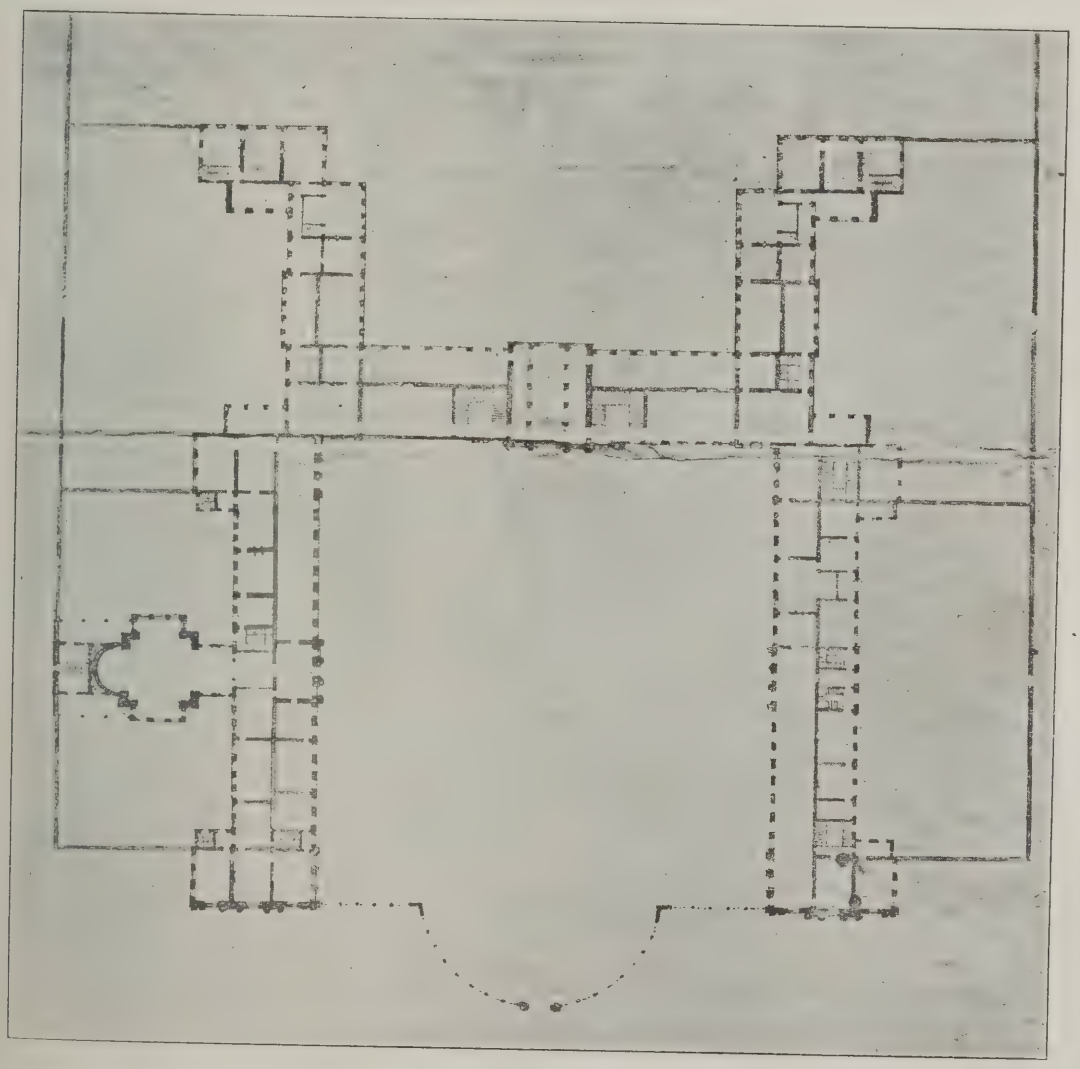
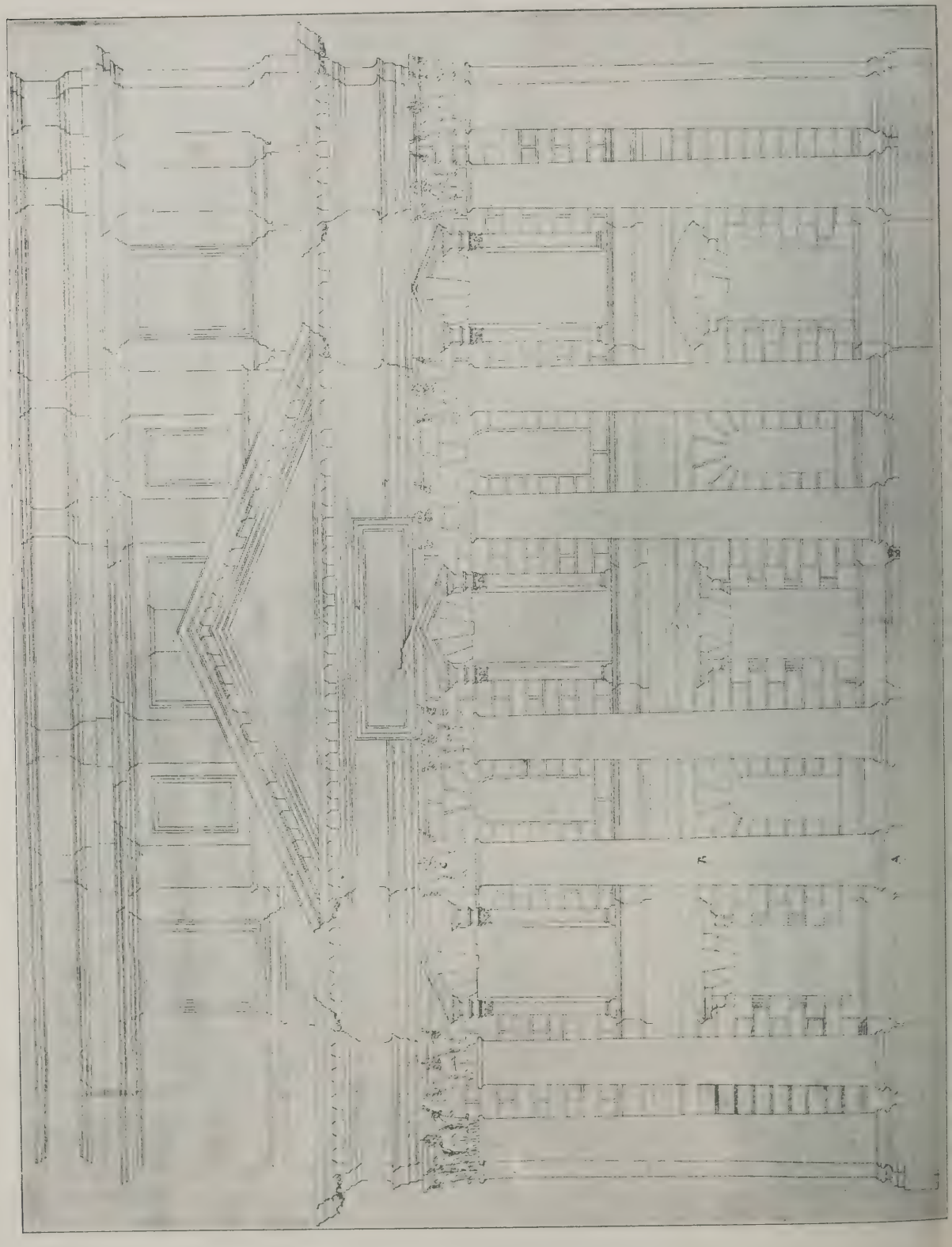


FIG. 9.—"MR. WEBB'S DESIGN FOR THE PALACE AT GREENWICH."

question, for we have not only Flitcroft's carefully-finished drawings, but also, in nearly every case, the original drawings which he transcribed.

These original drawings, then, you will say, must be the work of Inigo Jones. In them we shall see the ideas of the master more or less roughly conveyed ; ideas which Flitcroft put into neat and careful form for the engraver. Here comes the interesting point. None of the drawings are signed ; many have no writing upon them. A few, however, have notes—dimensions, calcu-



lations, notes as to the proportions of the rooms and of the columns ; one or two have the names of the rooms written on the plan ; one has the name of the man for whom the house was built ; another has a name in a later hand-writing. There are corrections and alterations on some of the plans. The general impression conveyed by the drawings is that they were being designed by the draughtsman as he worked. Who, then, was the draughtsman ? So far as the evidence of the writing and drawing goes, it was not Inigo Jones but John Webb.

Except one drawing of a house (with plan and elevation), somewhat akin to the smaller houses in Kent's book, there is nothing among these drawings to suggest that Jones inspired Webb in any sort of way. A much more obvious source of inspiration is Palladio's " Architecture," wherein are many plans and elevations ; and the general similarity between these and the designs prepared by Webb is obvious to anyone turning over the pages of Palladio.

We now come to the question of King Charles's block at Greenwich, upon which the Burlington-Devonshire drawings throw much interesting light.

Those who are acquainted with the great hospital at Greenwich will remember that the main buildings comprise five principal blocks [fig. 8]. Starting from the river, there are, first, two blocks (called after King Charles and Queen Anne), end-on to the river front, with a vast court between them. Beyond these are two other blocks with colonnades, each having a dome at one angle [DE on plan, fig. 8]. Beyond these, again, on the main axial line, but at some distance, is the fifth block, called the Queen's House [A on plan]. This house was the first part to be built, and it has always been attributed, no doubt correctly, to Inigo Jones. It was finished in 1635 for Queen Henrietta Maria, wife of Charles I. Among those Institute drawings which may safely be attributed to Jones, are several chimney-pieces for this house, bearing either the actual name or the cipher of the queen, and dated in some instances 1636, 1637 [figs. 4, 5].

It must be borne in mind that there was still in existence at this time an ancient palace near the river on the site, roughly, of Queen Anne's block.

There is no evidence, so far as I know, that any complete scheme for a large new palace was prepared by Jones or anyone else during his life-time, although some writers have assumed that there was such a scheme.

At the time of the outbreak of the Civil War, therefore, the palace of Greenwich consisted of the old building near the river, and the new Queen's house at some distance from it. Nothing more was done during the life of Charles I. : nothing was done during the Commonwealth. But shortly after the Restoration, and ten years after Inigo Jones's death, Charles II. built the first [or eastern] half of the present block called by his name. The plans and elevations of the building itself and drawings of chimney-pieces, doorways and ceilings to embellish it are in the Institute collection, and they are all drawn by Webb. There is nothing connected with this block that can be assigned to Jones.

It is, however, a curious fact that the design of this building has always been attributed to Jones, although it was said that Webb carried it out from his master's designs. It is said (in Hasted's " History of Kent ") that when the palace was about to be enlarged and converted into a hospital for seamen in the time of William and Mary, there was some talk of pulling down King Charles's block, but that Queen Mary objected on the ground that it had been built by Webb from Inigo Jones's design. That idea was put into currency by Colin Campbell in his " Vitruvius Britannicus " and has been prevalent ever since, but in view of the evidence furnished by these Institute drawings it is an idea extremely difficult to entertain.

In the first place there is, as already said, no evidence that Jones had prepared a large scheme, reaching from the Queen's House to the river, for Charles I. Jones had already been dead some nine or ten years before Charles II. started his scheme for a large palace, and there is nothing to show that the latter did not start entirely afresh. Indeed, there is a plan entitled

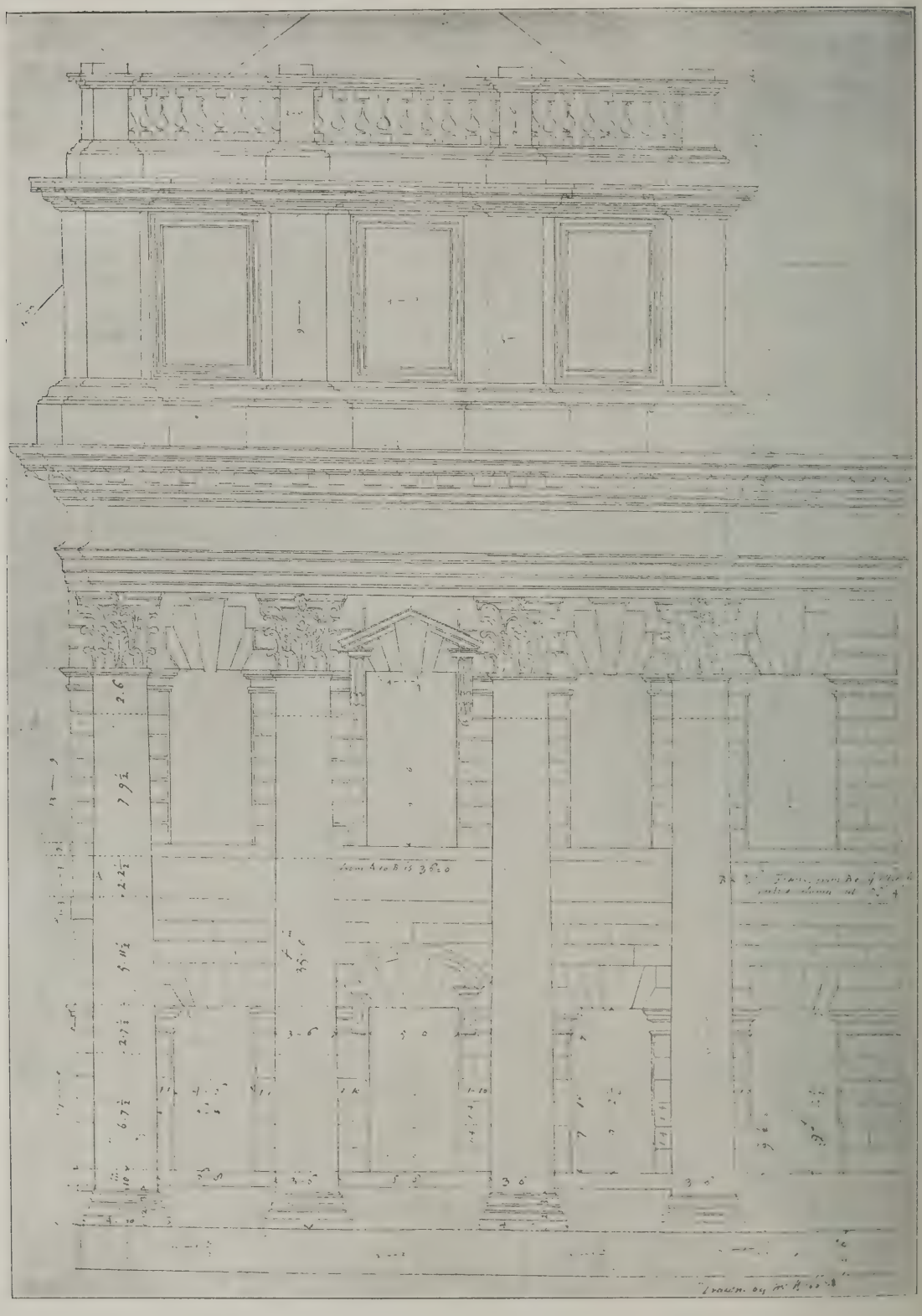


FIG. 11.—GREENWICH PALACE: ELEVATION OF END BLOCK, EAST FRONT. "DRAWN BY MR. WEBB."

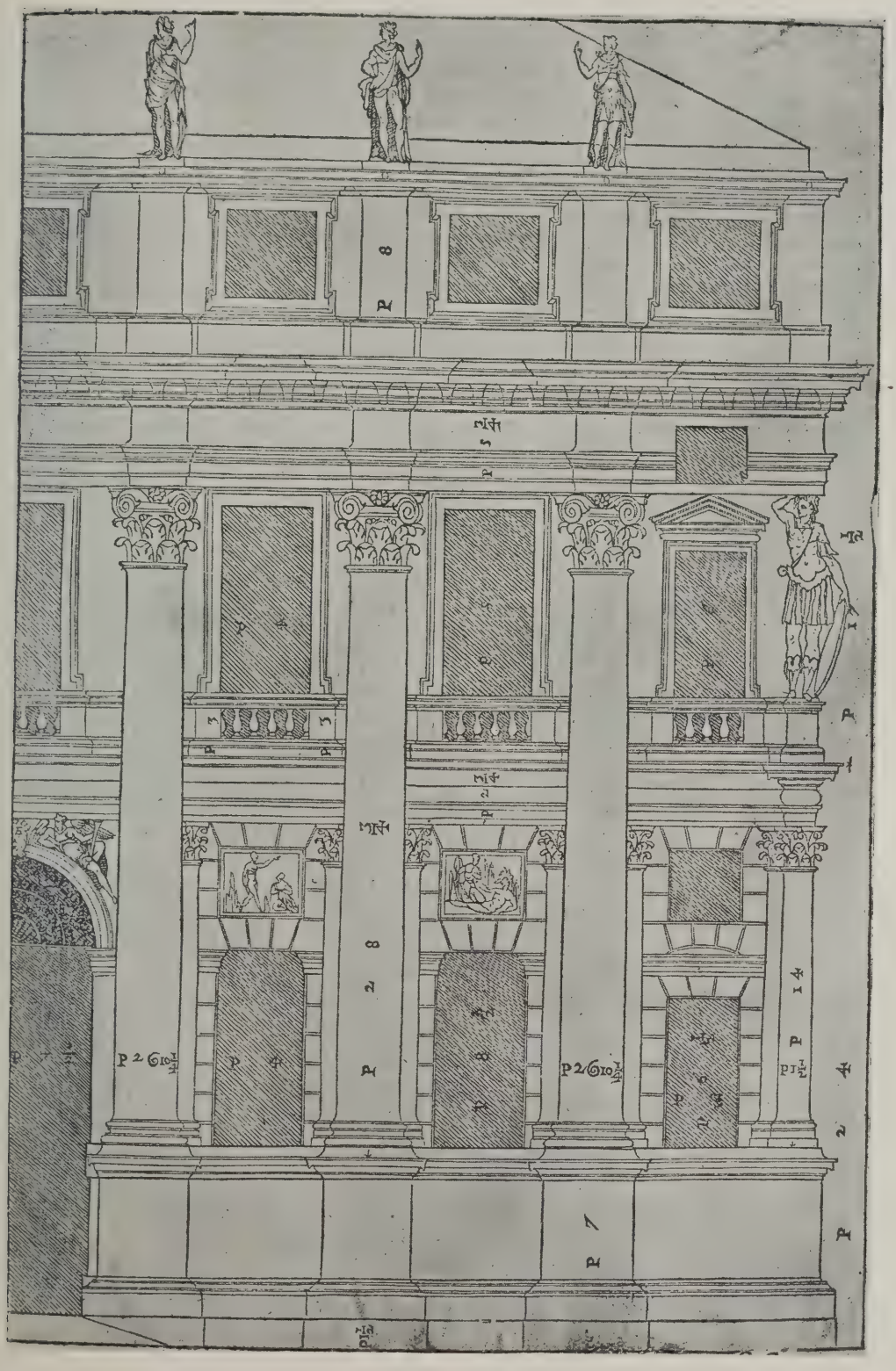


FIG. 12.—VILLA VALMARANA: PART ELEVATION.
Palladio, "I Quattro Libri dell' Architettura" (Venice, 1570, Bk. II. Pt. 12).

" Mr. Webb's design for the Palace at Greenwich " [fig. 9], which shows a building which was to consist of King Charles's block, balanced by a similar block at some distance, and connected by a third of even greater extent, thus forming three sides of a vast court, of which the fourth was the river. This arrangement would have cut off the Queen's House from the direct sight of the Thames, but would have left it as a conspicuous object on the axial line of the new Palace.

As a matter of fact, the only portion of this design which was actually carried out was the one wing afterwards known as King Charles's block, which corresponds with the eastern half of the existing block, shewn on the plan, fig. 8.

A few words as to the growth of this block are necessary here in order to explain its history, especially in view of the fact that in the Soane Museum there are careful elevations of it, which have been thought to be Inigo Jones's original design.

On Webb's plan of the whole palace, this wing consists of a long, narrow building, two rooms wide, with a short, projecting wing at each end. His large plans of the same building show the same disposition of rooms. According to other plans and elevations preserved both at the Institute and at the Soane Museum, this large building was soon supplemented by smaller buildings at the back. Then, at a comparatively late date, probably early in the eighteenth century, these minor buildings were cleared away and a new block, practically repeating that which we will call Webb's, was built alongside of it at a little distance. The river-front of the new block was a repeat of Webb's [which is shewn in fig. 10], and the two were joined together by a short connecting block. The elevation in the Soane Museum, attributed to Jones, shows the whole augmented front, and therefore (it would seem) can by no possibility be his, for, so far as the evidence goes, the idea of the augmented front was not conceived till some fifty years after his death.*

If, therefore, we accept the ordinary rules of evidence and judge by what we see, and exclude hearsay, the credit for the design of King Charles's block at Greenwich must be transferred from Jones to Webb ; unless, indeed, we feel ultimately compelled to re-transfer it to Palladio. For on plate 12 of the second book of Palladio's " Architecture " is the detailed elevation of a house at Vicenza, built by the Counts Valmarana, to which Webb's elevation of the end blocks of his building bears a striking resemblance [figs. 11, 12].

Webb himself bears incidentally in his " Vindication " some testimony in relation to this matter, for among the buildings which he cites as being of Jones's design he mentions the Queen's House at Greenwich, but gives no hint of anything else there ; and expressly states that Jones was prevented by death from " doing His now Sacred Majesty any actual service."†

Mention has been made of certain drawings of chimney-pieces, ceilings [fig. 13] and doorways, drawn by Webb for Greenwich. Many of these indicate for what rooms they were intended, and the sizes of the rooms are given, thus enabling us to identify all the principal rooms of the main floor. From the way in which these drawings are interdependent we are led to the same conclusion—that Webb was actually the designer of the building.

The dates on the drawings are interesting. The plan is dated 1663 : the chimney-pieces and most of the ceilings are dated 1666, thus indicating a building duration of about three years. The doors are dated 1665, so also are some of the plaster friezes, and likewise the dimensions taken for the setting out of one of the principal ceilings. The plan of the chapel, which presumably was never built—for it is shown on Webb's plan as attached to the east wing, which was not carried out for many years, probably not until Wren's chapel was already completed—is dated March ye 10th, 1669–70.

* In his *Vitruvius Britannicus* Campbell shows the double front ; his explanatory text is dated 1715.

† Webb's preface to his *Vindication* is dated 25th May 1664, *i.e.*, during the time he was engaged on King Charles' block.

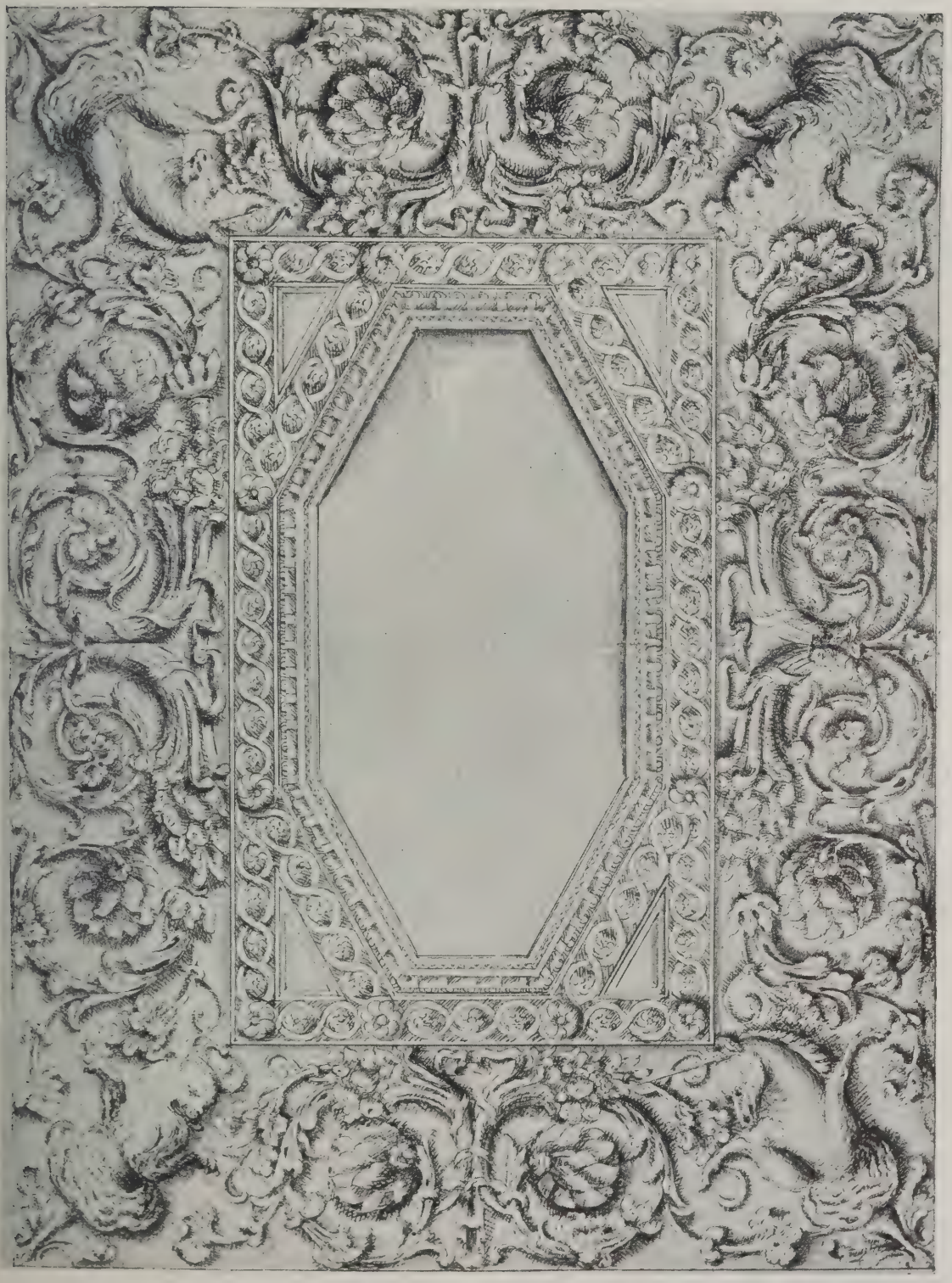


FIG. 13.—GREENWICH PALACE: CEILING OF PRESENCE CHAMBER. BY JOHN WEBB.

When an examination of these drawings and those of the sister collection at Worcester College has rendered one familiar with them, it is not difficult to distinguish between the draughtsmanship and writing of Jones and those of Webb, and the conclusion forced upon the mind is that even in the present day much that is really Webb's has been attributed to Jones. It may, of course, be replied that the hand is the hand of Webb, but the inspiration is that of Jones. To which I respectfully answer, Produce the evidence.

It is by no means my desire to decry Inigo Jones, or to start a crusade against his reputation. There is no wish to suggest, for instance, that John Webb was the first and greatest of architectural ghosts, and was exploited by his famous master. But it is only right that the evidence of these drawings should be carefully weighed, and one result,I cannot help thinking, will be the conclusion that John Webb was not merely a pale shadow of Jones, but that he was a man of remarkable independent ability. King Charles's block has been highly extolled. "There is no doubt," one critic says of it, "that this was one of Jones's most successful and beautiful designs." We may still agree with the sentiment, but we must give the credit to Webb. And not only so, but Wren, too, it would seem, may have to share some of his fame with his less celebrated predecessor. Other authorities have agreed in bestowing the highest praise upon Wren for the magnificent disposition of the Greenwich buildings, some for the vast forecourt, still more for the masterly way in which the space between the next two blocks is contracted, thus enhancing the value of the vista leading up to the Queen's House. We have seen, on Webb's general plan, how King Charles's block was to be balanced by a similar one across a vast courtyard. Curiously enough there is also a rough block plan, showing King Charles's block (in ink) already built, another block to correspond on the opposite side of the forecourt (in red pencil), and then beyond them are indications of further blocks, drawn nearer together, much in the way which Wren finally adopted. If this plan is Webb's then he adumbrated the very idea for which Wren is justly extolled. Another but minor point is that Wren is said to have added the attic story at the ends of King Charles's block, in order to bring it into harmony with his own work. But the collation of Webb's elevation with the plate in Palladio quite disposes of this theory. Indeed, a study of these drawings renders necessary the re-writing of the history of the earlier buildings at Greenwich. Even the Queen's House must be included in the revision ; for it was under contemplation to add four pavilions to its four corners, an idea which pervades so many plans—even Hawksmoor's at the Institute and those at the Soane Museum—that one begins to wonder whether they were actually added and subsequently removed. But that is a speculation outside the present purpose, which has been to bring to your notice a scantily-explored field of knowledge, wherein we find among our first discoveries that we must re-arrange our ideas upon the relations of Inigo Jones to John Webb.

DISCUSSION.

Mr. Leonard Stokes, *President*, in the Chair.

Mr. J. D. Crace [*H.A.*] said it was his great pleasure to propose a vote of thanks for the charming Paper just read, and he took occasion to add his personal thanks to Mr. Gotch for the kind way in which he had recognised his, Mr. Crace's, small part in obtaining transference of that interesting collection to the Institute. It was an incident of his life which he had looked back upon with unmitigated satisfaction, because he felt that the collection was now where it should be, and where it could be turned to account. If anything could add to that impression, it was the reading of such a Paper as had just been listened to. The careful analysis of some of the drawings in that collection threw much light on the history of British architecture, and added interest to the drawings themselves. Coming to details, it was worth mentioning that the date of the Queen's House was beyond question, because it was inscribed on the front of the building. On reading the Paper, he was convinced that John Webb deserved a higher place in the ranks of English architects than he had hitherto been considered to occupy, by so much as concerned the magnificent addition to the buildings in the neigh-

bourhood of London contained in the portion of Greenwich Hospital for which he (the speaker) had no doubt he was responsible. On going through the plans, there were one or two points which he would like Mr. Gotch to explain. Had Webb's whole ground plan been carried out, he was not quite clear what was the axial line upon which the Queen's House would have remained as a conspicuous feature. Another point in connection with the same plan was, that Mr. Gotch spoke of Webb's chapel as being on the west wing, whereas it was really on the east wing. [MR. GOTCH: That is so; it was my mistake.] It was on the same side as Wren's chapel. In regard to the chapel known as Wren's, the interior was destroyed by fire in the latter part of the eighteenth century, and what was now seen inside was (Athenian) Stuart's work. Webb was actually employed as the architect; and he thought it was not very difficult to recognise how buildings became, in an indefinite way, attributed to Inigo Jones. It was the same sort of principle as that under which most of the jokes of the first half of the nineteenth century were attributed to Sidney Smith, and every picture which was brought into this country in the eighteenth century became associated with some great master, and most of them had had to be re-attributed since. It was somewhat natural to select the greatest name sanctioned by history. There need be no compunction felt at transferring the honour to Webb concerning the matters of which Mr. Gotch spoke, especially as Inigo Jones' reputation did not stand in need of any bolstering up by any particular building. There would be no hardship on Jones due to adding to Webb's importance in architecture. It came as a surprise to him that there were any of the foundations of the old Greenwich palace existing in the East wing. But he believed that the old palace of Henry VIII., in which Queen Mary and Queen Elizabeth were both born and in which Edward VI. died, extended eastwards, from the East building at least as far as the present East Gate of the Hospital. He was not prepared with evidence, but his own grandfather was connected with the hospital fifty years, and he used to say that the old palace extended to rather beyond the present East gate. He concluded by congratulating the Institute on having a succession of architects who were willing and able to give care and time to making such a careful analysis of a collection of drawings which must continue to attract the attention of those who perceived the value of architecture in the history of the country, as well as the connection of that with Italian art.

MR. LAWRENCE WEAVER, F.S.A. [*H.A.*], in seconding the vote of thanks, said Mr. Gotch's paper had afforded much delight. Mr. Gotch had drawn attention to the handwriting of Webb on that very remarkable drawing of the ceiling at Wilton; and it occurred to him (the speaker), that those who were practising architecture should be careful not to allow their assistants to add lettering on the drawings, or the architects themselves might be denied the credit of having had any hand in the designs which they showed. He could not conceive that the notes on the drawings at Wilton could be held to indicate that Webb had anything to do with that remarkable work. With regard to Greenwich, he thought Mr. Gotch had proved his point; but surely there should be plenty of evidence available, and it should be sought in other quarters. He had recently had occasion to go through the domestic papers of the reign of Charles II., hunting for some information, though the many volumes of Index were alone sufficient to account for several days' reading. Search should be made at Greenwich for some reference to Webb's work; it seemed to be a matter which was susceptible of proof, if enquiry were made in the right direction, though he did not propose to try himself. He did not think it was quite fair of Mr. Gotch to say that the onus of proof lay on Inigo Jones in favour of all the works which had been attributed to him. Surely some importance should be attached to oral tradition in such a matter, especially as the documents of the period were very sparse, except the official documents. He did not think Inigo Jones would have received all the reputation he did if it simply rested on the basis of ghosts, except the buildings which Mr. Gotch did not need to touch, such as Whitehall, &c., in regard to which there was no suggestion that Webb had anything to do with them. With regard to the West Front of St. Paul's, he asked whether it was not possible that the drawing was a parody of what was finally built. He, Mr. Weaver, had to be at Covent Garden most days of the week, and he passed through the entrance of St. Paul's, Covent Garden, every day. He looked at Sandby's drawing of St. Paul's, Covent Garden, and came to the conclusion that it really conveyed no idea of the building itself. That building was a reconstruction, the original building having been burned down. If there had been no St. Paul's, Covent Garden, to look at, even in its present form, and one only had the eighteenth century drawings to go upon, it would not be considered as much of a building. But as they had a fair representation of what Inigo Jones did, they were able to attach more importance to the building than, he thought, otherwise would be the case. People in the seventeenth century would not have talked with such enthusiasm about the West Front of St. Paul's if there had not been something in it. Those were thoughts which naturally occurred to one on hearing the paper, and he thought the Institute should feel grateful for the serious and capable work which Mr. Gotch had done on the drawings. Those who were attached to the Institute would find great pleasure in looking at them again, when they were published in the JOURNAL.

Therefore, he had great pleasure in seconding the vote of thanks.

Mr. W. RYLAND DENT ADKINS, M.P., said that it seemed to him that certain contentions of his friend Mr. Gotch had some support from the general view of history and of national development in the period to which he referred. At any rate, it would strike one as being plausible—to put it no higher—that a person living in the time of Inigo Jones, and flourishing as he did in the early years of James I., called upon to assist at a design in works of art like Masques, concerned not only with designing scenery but with counselling drapery, in certain ways something between scene-painter and stage-artist, should find greater delight in freedom of pen and pencil than in the precision of more strictly architectural methods. And the sketches shown that evening, indicating the difference between his great successes when he was drawing with pen and pencil, and the comparative inadequacy when dealing with strictly accurate instruments, seemed to be in accord with what one would have expected from the general tendency of the age. Because surely seventeenth-century England was marked by a breaking-up of the old varied genius of the Elizabethan period into specialists in all departments. It was notoriously so in the realms of religious and political history, and scarcely less so in the realm of literature; indeed, there seemed some grounds for believing it to be true of almost every art. There arose people who were more consummate masters of the technique appropriate to particular arts and particular sciences, but there was a loss of that extraordinary versatility of genius which marked the Elizabethan period, and of course continued in many departments down to the reign of James I. Hence it seemed to be in accordance with the general tendency of the period if it should be proved that one of Mr. Gotch's great contentions was accurate, that Inigo Jones was greater in the less acutely technical detail of architecture than he was in the more strict detail. Because Inigo Jones was a man of very varied excellences, and of great versatility of genius. There also seemed to him (the speaker), to be grounds, on the general history, for the reasonableness of the suggestion that the man who designed the Queen's House at Greenwich should not also have designed what afterwards became known as King Charles's block. The Queen's House at Greenwich was finished in 1635, and he thought many present would agree with him that the period 1631–42 was a singularly inconvenient one for the spending of a monarchical income of public money on works of public beauty; because while he would not repeat what certain historians described as eleven years' tyranny, there could be no doubt that during the period 1632–41 King Charles I., despite his consummate taste in matters of art, was very hard put to it to find money. There was a great lack of resources for those undertakings of a large character. Therefore it would not be at all unusual, in fact it was extraordinarily likely to happen, that when the Queen's House was built in 1635, not only was the King unable to go on developing the great new palace at Greenwich, but there was every reason to think he had then done as much as he could afford, and that possibly no further plans were then drawn out. That idea also accorded with the incidental matter mentioned by Mr. Gotch about the designs of a temple, adopted 1638–39, never having been carried out. The reason seemed to be the same. Matters were getting very serious in that year, and various financial methods, of which that known as "ship money" would be best remembered, were being considered. Money was precarious in those days, on the part of the Crown, the Government, and the City of London; the latter, in those days, was not going to spend money on anything which was going to be agreeable to the King, or anything which gave the impression that there was money available to be spent on decorative work. Such, he thought, might be the explanation of those designs not having been carried out. Another point was that which was touched upon by Mr. Weaver, as to the likelihood or not of these drawings, which Mr. Gotch had shown belonged largely to Webb, being attributable to Inigo Jones. He, the speaker, thought it was difficult to make too much allowance for the way in which people, at the end of the reign of Charles II. and in the reigns of James II. and William III. and Anne, paid reverence to everything which was done before the Civil War. Because the *rôle* of the Restoration, after it had got over its excitement, was to take the point of view of looking back and worshipping, and as far as possible restoring, everything which was done before the catastrophe. There was a tremendous tendency to attribute anything which was good, as a new departure, to the great men who had flourished before the War. There was a very striking example in Dryden's lines which he wrote to Congreve in 1696, where he was complimenting Congreve in the extravagant language of the time, as to the excellency of his youthful verses, and describing poets of the earlier time as

> "They, with the giant race before the Flood."

And then, going on in a metaphor not inappropriate to the profession of architecture,

> "Our builders were with lack of genius curst,
> The second Temple was not like the first."

That illustrated very well the attitude of mind which referred everything, as much as possible, to the supreme capacities of those who flourished before the Civil War. That was an element in the public opinion and tradition of the period which would result in any building which was really designed by Webb to be attributed to the great figure Inigo Jones, who died just before Charles II.

came to his own again, particularly when it was supported by the fact that everybody knew that Webb had been his nephew and his pupil. And it was possible to agree both with the view which Mr. Gotch had put forward and that of Mr. Weaver also. The drawings seemed to support to some extent the thesis of Mr. Gotch, from the point of view of what appeared to be the general characteristics of the period; and certainly that tendency to pass from general versatility, with greater freedom of line and greater width of imagination, to a more accurate balance of proportion, to stricter fidelity to Palladian examples, to more careful architectural detail, was surely the characteristic of the century generally, particularly in England. If that were so, it would go some little way alike to account for the difference between the feeling in regard to Webb and Inigo Jones, and for the success which Webb had, both in what he did for Inigo Jones and in what he did on his own account.

Mr. J. P. MAINE said he desired to heartily support the vote of thanks to Mr. Gotch, on behalf of the Duke of Devonshire, who would, he was sure, be very pleased to know that the Burlington-Devonshire collection of drawings was so much appreciated and afforded such an excellent field for research. To him the paper had proved of extreme interest, because in the course of his work at Chatsworth he had had to study very carefully the drawings for masques, and scenery for masques by Inigo Jones, as well as the Inigo Jones sketch-book, which was at Chatsworth, and which had been referred to by Mr. Gotch. There could be no doubt in the mind of anyone who looked carefully at Inigo Jones's drawings that that master was infinitely more at home when drawing freehand than when he was trammelled in any way with instruments. The sketch book, particularly the original one, gave even the uninitiated —like himself—an idea of great mastery and great power on the part of the artist. As was well known, the sketch book was used by Inigo Jones on his journey in Italy, in the year 1613, and in that book he noted down any pictures, or parts of pictures, which arrested his attention. They were independently noted down as he walked round the various galleries and palaces in Italy: they were done straight off on the spot, in pen-and-ink. And, as anyone who looked through that book would admit, they were masterly sketches. Looking at the drawings for masques, one found that the technical method was different, and there was not observed the same freedom and power. Some of the drawings of the figures in the masques were all first sketched in pencil, with a certain amount of erasure, alteration, and correction, and were subsequently inked in. The exact significance of those technical facts Mr. Gotch and those present would understand better than he did himself. It had occurred to him, and it was mentioned also by Dr. Thomas Ashby when he saw the drawings for the scenery, that the drawings seemed to comprise the work of at least two hands. And he remembered saying to Dr. Ashby that if, as he seemed to think, as had been noticed that evening, there were two manners, who was the other man? Mr. Gotch had, of course, thrown much illumination on that: the second hand might well have been that of Webb. What had been set forth that evening would be regarded as practically a new discovery. To him the paper was particularly interesting because it shed a new light on the drawings which were at Chatsworth. He mentioned what he had as interesting facts for Mr. Gotch, and he hoped before long to be able to welcome that gentleman to Chatsworth, so that he could see the Inigo Jones's drawings there. It was his hope that the reader of the paper would be able to throw still more light on that very interesting question. Another point which occurred to him (Mr. Maine) as a Palaeographer, was that concerning the drawing of Wilton House ceiling. Was it not possible that a careful examination of the quality of the ink used in the drawing and in the handwriting might throw some light on the question whether they were or were not done by the same man? He knew that in the criticism of Greek manuscripts, many important points turned on the quality of the ink used; why not apply the same criterion of judgment in this case?

Mr. C. R. PEERS remarked that the Meeting had heard from Mr. Ryland Adkins the opinion, as he called it, of the man in the street. If one could understand the man in the street speaking as Mr. Ryland Adkins did, one could also understand what his influence in contemporary politics was; for he had not heard for a long time any better or more subtle reasoning. He (Mr. Peers) could not speak as the man in the street, but only as the much more suspicious person, the man in a Government office. He knew that the President had a particular feeling towards a certain Government office to which he (Mr. Peers) belonged. Therefore he would only touch lightly upon that. But a few points in Mr. Gotch's Paper had struck him. There was the very interesting distinction between the work of Inigo Jones and the work of Webb. If one considered the history of Inigo Jones, it was rather an illuminating point that, so far as was known—and the evidence was very clear—until he was forty-two years of age Inigo Jones was what would be called an arrant amateur; he could not very well be called anything else. He spoke with diffidence in a professional assembly such as the present one, but until Inigo Jones's return from Italy, which was about 1615, his chief architectural work, if it could be called architectural work, was connected with the designing of scenery for masques. And if his hearers knew the drawings, as most of them doubtless did, which Jones made for that scenery, they would agree that whatever it could be called the name

of architecture could not be given to it. It happened that Inigo Jones lived at a time which was one of the most critical in the whole of the history of English architecture. There had been a breaking, seventy years before, with the old vernacular tradition, and since that time men had been seeking generally, he believed, from text-books, for something else to rest upon. From about 1520 to 1550 the influence was Italian, and he thought it was an entirely superficial influence. When the Italian influence left the country, much of our architecture for a considerable time was "made in Germany," a fact which accounted for the curious vagaries of the work. To his mind what was wanted, and what Inigo Jones, to his eternal credit, supplied, was some rule of scholarship. He did not think it could be claimed in any way that what he gave us was a vernacular style; but at least he gave order after confusion. Anyone who would reflect upon the difference between the work which was going on ordinarily in this country in 1618 and the designs for the Palace of Whitehall would see what he meant. It was always extraordinary to him when he passed the Banqueting House and remembered that that building was designed and built in 1618 and 1619, that it should be so absolutely different from anything else in the country of that date, or for perhaps twenty years later. And whatever Inigo Jones might have been before he devoted himself to the importation of scholastic architecture from Italy, he did extraordinary service in giving this country a model of that kind. Whether it was entirely suitable for this country was another matter, but there was no question that here was a basis for sound scholarly architecture which went by rule, and it had a certain reasonableness about it which must have amounted to a new inspiration at the time. Webb appeared to him to have been an English architect strongly influenced by the scholastic teaching of his master Inigo Jones; but, with all that, not a man of the same quality at all. Those of his hearers who knew Longthorpe Hall, near Peterborough, which was a very charming building, would see what he intended to convey by that remark. It was very different from the scholarly work of Inigo Jones. But, on the other hand, it appeared to be a very great advance upon the work of forty years earlier. It was built in 1656, and remained as a striking witness to the influence of Inigo Jones on English work. Another point, which had been touched on several times that evening, and which he would like to mention once more, was that when once an attack was commenced on a man's reputation as a famous architect—he did not mean to suggest that Mr. Gotch was attacking Inigo Jones—it was difficult to know where to stop. If one thought of the number of houses in this country which were attributed to Wren, and the number of carvings associated with the name of Grinling Gibbons, which could not possibly be due to either one or the other, one began to think that Wren never built a single house and that Grinling Gibbons did no carving. The fact was that the styles of those masters were closely copied by other men who were sufficiently competent and skilled to follow up the tradition which had been set. The same remark might be applied to the work of the men who built the roof of the Hall at Hampton Court. The pendants of the roof were purely Italian in style but the name of the man who carved them was English—Richard Ridge. It was well known that he carved them, and that they cost 26*s.* each; the accounts were extant. But he did not think that detracted from the skill and the fame of the people who inspired him. It was clear that if some Italian craftsman had not been at Hampton Court, Richard Ridge would not have been able to carve those pendants. They were purely Italian, and they were done by a man who could absorb tradition. And so the credit of such men as Wren and Gibbons might be similarly assessed; they were men of such character and such scholarly instinct that they were able to teach others to imitate them and to produce a school of work which redounded to their credit, but of which they did not themselves produce one-third by their own design or their own hands.

Mr. GERALD HORSLEY [*F.*] remarked that the drawings were very instructive from the point of view not only of design but of draughtsmanship. Much had been said about Inigo Jones's draughtsmanship, but there was one noticeable quality similar to that to be seen in drawings by Palladio, namely, the power evidently possessed by Inigo Jones which enabled him to indicate in every drawing the true proportions of the work he was designing. This must have led to the success of the proportions in the actual building. And he thought that the more closely the drawings of to-day could approach to the careful, expressive, delicate, and refined character of some of these early drawings the more likely were the details in buildings to be successful.

Mr. MAURICE B. ADAMS [*F.*] said he would like to make one or two practical suggestions with regard to the draughtsmanship. He had been familiar with the collections of similar old drawings, more or less, for many years, and what had always impressed him about them was their sense of texture. A well known architect recently had said that if a young pupil in his office turned out drawings like these, he would be inclined to think such a clerk had misapprehended his object in life. But those who made such remarks failed, he thought, to grasp the technical qualities of these old drawings altogether. With these draughtsmen, whoever they might have been—coming down even to Flitcroft, who was probably only a draughtsman—they seemed to realise and grasp the material or the grip of the whole thing in a way which many adroit draughtsmen missed nowadays. And this

led him to one point which he wished particularly to emphasise. That evening they had seen those drawings magnified to a great scale, which made them look coarse—quite necessarily so, seeing the object for which they were shown. Later they would be seen, probably, to a very small scale—though perfectly serviceable and admirably adapted to the purpose—in the pages of the Institute JOURNAL. But what he wanted draughtsmen to do was to go and look at the actual originals, and study them, grasping their true proportions and scale. They would by this means gain a good idea of the intentions of these old men. Their object had been not so much to make a pretty drawing or a finished piece of draughtsmanship, but to represent what was passing in their minds at the time. In doing that they invariably lost sight of everything else. In the drawings seen that evening, the way in which the sculpture was varied on one side and the other, showed that the draughtsman was feeling his way and grasping in a personal sense the architectural development of the design. That was what he wanted to demonstrate: modern draughtsmanship was often divorced from those principles, and then it went wrong. Draughtsmanship was not everything, and many draughtsmen who were excellent in their way were not truly architects. Their failure was simply because the draughtsmanship of the day was not always made the handmaiden of design as it was when these very rough drafts were made.

THE PRESIDENT said he could not add very much to what had been said. The drawings were extremely interesting, and if it were proved that Webb did a great deal of work which had hitherto been attributed to Inigo Jones, it was desirable that the facts should be known; and Mr. Gotch had put them in the way of finding them out. One speaker referred to Webb as a ghost. It seemed to him (the President) that he was a most respectable ghost, seeing that he acted to a large extent after Jones was dead, so that he might quite legitimately be regarded as the master's ghost. In answer to Mr. Peers, he had no grudge against any Government office; indeed, he had a great admiration for the office which that gentleman adorned at the moment! He had been pleased to hear such an admirable sample of the man in the street as Mr. Adkins, who was luckily in the position of being a Member of Parliament, and would therefore be able to keep his eye on the admirable office just mentioned! He asked the Meeting to pass the vote of thanks to Mr. Gotch, whose interesting paper was full of material for further thought, and had admirably worked the subject out.

The vote was carried by acclamation.

MR. GOTCH, in reply, expressed his great obligation for the very kind way in which the Meeting had received the paper, and particularly to the various speakers for their handsome remarks and their valuable hints and suggestions, and the information they had added on the subject. He would endeavour briefly to touch upon some of the points which had been referred to. First was the question of Mr. Crace as to the axial line on which the Queen's House stood. In the absence of the plan, he asked them to remember that there were two wings and a cross block at the top; and if one took the centre line of the courtyard thus, it would have gone through the centre of the Queen's House. In other words, the width of Webb's courtyard was much the same as the width of the present courtyard. His point with regard to it was, that the idea of the vast courtyard was already shown on Webb's little plan, and did not arise with Wren. With regard to the ceiling at Wilton, in spite of what Mr. Weaver said, he adhered to the opinion that it was drawn by Webb, because the drawing had his handwriting upon it, and he did not think it impossible for a man with Webb's training to have designed it. There was no need to go to Inigo Jones for instruction in regard to a ceiling of that sort, because as soon as one opened Palladio's or Serlio's book one found scores of similar things. The design seemed quite consistent with what one conceived of Webb's power. Oral tradition, as Mr. Crace said, was very powerful, and always had been, and as Mr. Ryland Adkins pointed out, the probability was that a man who achieved a great reputation—and he did not wish to detract from Jones's reputation—would naturally absorb more than his share of fame. Whitehall had been mentioned as not being associated with Webb. But there again he feared he must differ, because, so far as he had been able to examine the drawings at Worcester College—and there were a dozen of them—the greater part seemed to have been drawn by Webb. That opened up another interesting question. The Banqueting Hall had always been supposed to be the only part of a large preconceived design which was actually carried out; but it was worth considering whether the Banqueting Hall was not first built, and the large design then worked in with it. He did not say it was so, but merely that the evidence supplied by the drawings made that possible, and it was a point which needed investigation. With regard to the west front of St. Paul's, the portion of it which elicited such intense admiration from Webb and others was that which was not shown on the drawing exhibited that evening; it was the portico which was extolled so much. He thought it was certain that the actual west front carried out was very much as it was shown on that drawing, because Hollar's drawing of it, and Kent's drawing of it, were very much like it, except in certain details. He was much interested in what Mr. Maine said about the drawings at Chatsworth, and the suggestion that Webb was associated with the masques. That was possible with the later ones, but it must be remembered that Webb was said to have been born in 1611, and went to be with Inigo Jones in

1628, i.e. when he was seventeen. Webb must have worked at architecture, or at least drawing, for a few years before he would acquire facility, and that would bring him into the thirties before he would be in a position to help Inigo Jones very much in drawing. Therefore he could not have helped in the earlier masques. With regard to the quality of ink used, and the writing, those were, of course, important factors in ascertaining the authorship of a drawing; and so far as they related to the Wilton ceiling he believed they would support the view that Webb might have drawn it. There was another point, which he mentioned once before in connection with the Smithson drawings, which was of great importance in investigating drawings, namely, the watermarks. Unfortunately, nearly every one of the drawings was mounted, both at the Institute and in the British Museum. One advantage in regard to the Worcester collection was that none of the drawings were mounted. Mr. Peers mentioned that much Elizabethan architecture was taken from text-books. Text-books played quite as large a part, if not larger, in the classic architecture of a later date. Anyone who turned over the books of Palladio or Serlio would see the source of inspiration of almost all subsequent English architecture. Whether in the case of Inigo Jones or of Webb, it was interesting to see how much they founded their style and methods, and their daily habit of jotting down things, on the Italian examples. Another interesting matter (although not connected with those drawings) was Jones's book on "Stonehenge Restored," and Webb's vindication thereof. As he mentioned in the paper, Jones wrote a book proving, to his own satisfaction, that Stonehenge was the remains of a Roman temple. A certain Dr. Charleton wrote another book with the object of showing that Inigo Jones was entirely wrong. He believed those present would be prepared to sympathise with Charleton's first conclusion, although they might not go so far as to agree with the second conclusion, that Stonehenge was the work of the Danes. John Webb, who was an intense admirer of Jones—a fact which had to be considered—wrote a vindication of "Stonehenge Restored," in which he ridiculed poor Dr. Charleton and lavished upon him the bitterest scorn. And because Dr. Charleton had hinted that Inigo Jones had written the book out of self-glorification, Webb said—incidentally, and not with the idea of conveying information—that it was not a case of self-glorification on Inigo Jones's part, because "Stonehenge Restored" was written from some "indigested notes of Inigo Jones" which were not published until after his death. There again one found Webb doing Jones's work. John Webb was practically the author of "Stonehenge Restored" from Inigo Jones's "indigested notes." He did not say that was of importance, but it supported the idea that John Webb did a great deal more of Inigo Jones's work than he had hitherto received the credit for.

Mr. JOHN BELCHER, R.A. (*F.*), in a letter to the Secretary dated 11th March writes :—

I regret that I am not well enough to attend on Monday evening, though I am sorely tempted to try, as I am very much interested in Mr. Gotch's Paper and in the result of his investigations. I may say I quite agree with him, and have always been doubtful about the King Charles block at Greenwich attributed to Inigo Jones. I adopted the statement which I found handed down, but then I was chiefly engaged in criticising the *work*, and was not so much concerned as to whether Jones or Webb did it. . . . There are many buildings attributed to Jones which Webb probably designed, being *influenced*, no doubt, by Jones's, for whom he had the highest admiration.

Mr. J. D. CRACE, writing since the Meeting, says :—In the discussion following Mr. Gotch's Paper, one speaker (Mr. Lawrence Weaver) raised the question whether researches in the old accounts of Greenwich Hospital might not throw further light on the subject of the authorship of King Charles's wing. I am afraid that there is little hope of this, for at some time between 1835 and 1845 (I do not know the exact date) an order came from the Admiralty to Greenwich that all old accounts and papers of the kind should be destroyed. My father, hearing of this, asked permission to look at them; and, in the hurried inspection possible to him, saved from destruction a few of the papers connected with the contracts under Wren. These I subsequently had bound together and presented them to the Institute Library. They are probably the sole survivors of such papers.

LONDON'S WARNING.

By Paul Waterhouse [*F.*].

BLUE-BOOKS are not always sure of a considerate or enthusiastic public. There is a danger, therefore, lest the Report of the London Traffic Branch of the Board of Trade (1910) may fail of its mission. But that mission is one of supreme importance. The facts as set out in this book are of such immense urgency that they cannot possibly be stifled out of existence by mere neglect of vision on our part.

To put things plainly. The Traffic Commission Report of five years ago said in effect: "Here are the facts about the difficulty of locomotion in London. The stress is acute. The remedy has by lapse of time already become costly, it will become costlier as time further advances, and therefore we offer a suggestion as to certain definite methods of relief." Some of us read the Report or parts of it, others read about it, and the Government, which we must not accuse of total inactivity, committed the further study of the subject to a Department of the Board of Trade.

In 1909 the Staff of this special Branch was increased for the purpose of making possible a particular inquiry into the subject of arterial roads. This investigation, we are told, will not be complete till some time in the present year, but in the meanwhile the Branch has very wisely, in view of the real urgency of the subject, put forth the summary of its present conclusions. It should be acknowledged at once that the Report varies in certain substantial particulars from that of the Traffic Commission. The diagnosis is different, and so is the prescription. We may attribute this change of treatment, not merely to the difference of *personnel* in the advisers, but partly to an actual change in the condition of the problem (brought about by the remarkable recent changes in methods of locomotion), and partly also to the fact that the present advisers have in some ways come to closer grips with their subject; they have consequently felt themselves nearer to actual issues than their predecessors, and have thereby gained something in practicability while losing something in courage. But there is no doubt that these experts who have looked into matters with unromantic official eyes are thoroughly in earnest about the urgency of their case. "The laying out of particular areas," they say . . ." is a matter for the consideration of the local authorities; but in the absence of better through communications than now exist, and of facilities for cheap and rapid locomotion, isolated schemes, however beneficial to the localities themselves, would do little to promote the distribution of the population or the development of London as a whole. The adoption of a definite scheme of road improvement in the metropolitan area would serve another purpose hardly less important, by laying the foundation of a general plan to which future improvements could be made to conform. The absence of such a plan, which has been the main cause of the difficulties which beset the traffic problem, has often been pointed out, and the necessity of supplying the want was strongly urged by the Royal Commission."

Now it is at least worth while to consider what has been the history, not merely of London roads, but of Englishmen's consideration of these roads, for it is discoverable that our present inexcusable apathy is due to a previous apathy which had a very good excuse. In the reign of Charles II. the roads into London were bad, for all roads were bad throughout England. They remained discreditable until the middle of the eighteenth century, when a determined attempt was made at amelioration. Turnpike Acts had apparently been in force in the seventeenth century, or even before, but it was not until 1760 that really energetic measures were taken for the general establishment of a system which virtually meant the transference of the cost of a road to its users instead of leaving the financial responsibility with the parish in which it lay. The system, in spite of its faults of administration, was a national effort at road improvement, and is evidence of Parliament's interest in the importance of the public ways. The great and scientific improvements of Telford, the revolutionary discovery of Macadam, the formation of the Metropolis Road Board, and the bold construction of such noble enterprises as the "New" Road, the City Road, and the Avenue Road, are all instances of this strenuous activity. But at length there came to London that new miracle the railway, and with it came also by swift degrees the conviction that after all the roads were of secondary importance. From this climax dates that road apathy which has lived on into our day. It is very easy to be apathetic about roads; there is a natural tendency in man, unless he has had actual experience of road-making in a new country, to think of roads as geographical attributes of the earth, like mountains and rivers, so that beyond an occasional realisation of the fact that road repairs are a necessary expense of life there is very little thought of roads as human products liable to amendment, re-arrangement, alteration, or suppression.

Moreover, all good Londoners are unwilling to face the idea of London improvements. We hate change, and even ugly things become to us established things, so that we almost cherish them. This is not right of course; we ought to be discriminating'

and to have our artistic conscience alive to discernment. But there still does exist in us a kind of affectionate sloth which makes us unwilling to see old land-marks removed unless we are very clearly assured that something very good is to come of it and nothing good is to be destroyed.

Thus, when the voice of the Blue Book is heard in the land, we listen with closed ears like men reminded in their prime of the certainty of death. But let me say that in this new Report, if you will read it, will be found no mere pulpit platitudes, but a message closer and more urgent. You may imagine after you have read it that so far from having merely listened to the old generalities on mortality, you have just come out of a Harley Street door dazed with a verdict of doom. The thing has come close, it is no mere sound or rumour. It touches. Poor old London, to shift the metaphor to her, must have the knife and have it now. "Operate at once," says the Blue Book," or, if you will not consent now, expect later on deeper knifings and higher surgeons' fees."

That is the gist of it; and I own that it rouses me. I will yield to no one in the affectionate inaction which says: "For very love's sake spare the knife," but if there is cutting to be done, in Heaven's name let us make sure that we secure surgeons, not butchers, and that the operation is a clean business that will end in healing, not in a continuing and unclean sore.

With infinite pains the London Traffic Branch of the Board of Trade have felt the pulse of locomotion all over London. They have made themselves masters of the facts. They know and can show just where the difficulties (which mean the time-losses) occur, why they occur, and when. The remedies they propose are, it will be seen, different from those suggested by the Traffic Commission. The proposed East to West road, on the North of the Thames (making use of the Euston and City Roads), bears, it is true, some relationship to the East and West Avenue of the Traffic Commissioners; but the ill-considered North to South route of 1905 is abandoned, and the scheme of subways for trams is apparently shelved altogether. One ventures the criticism that the central London problem has been unduly shirked, and it is permissible to express a measure of surprise at the discovery that no mention whatever is made either of the bridge suggested by the Traffic Commissioners or of the proposed St. Paul's Bridge. Probably the former is ignored as being an integral part of the North to South route of the Commissioners, which route, or rather which direction, the Board of Trade decides to ignore. The omission of allusion to the latter is possibly due to the fact that the new Report, though only issued last month, was apparently ready for the press in October. Still, even in October the bridge had been for four months the chief topic in the world where street improvements are discussed.

There is much in the Report which I need not so much as chronicle in this review. We can accept from its writers as irrefutable the data which they have industriously and commendably collected in relation to the ever-increasing pressure of traffic. I think we may take it from them as a certainty that the new roads, the widenings, the connections, and the by-passes which they recommend are the least that London in her extreme crisis needs for her relief.

The nature and extent of those proposals is most clearly and briefly set forth by the map here reproduced. The reproduction is made by permission from that which appeared in the *Times*, not direct from that in the Report, which is printed in colours. It is right to observe here that the change of tactics which distinguishes this from the proposals of the Traffic Commission is largely due to the acute realisation of the fact, that even more important than the relief of traffic in mid-London is the necessity for coping with the alarming increase of population in the suburbs, both the inner suburbs and the remoter. This increase presents a double urgency. Not merely does it, in itself, supply the population whose correspondent locomotion causes the congestion, but it makes increasingly urgent the need that the arteries in those suburbs should be kept *wide* while they can be.

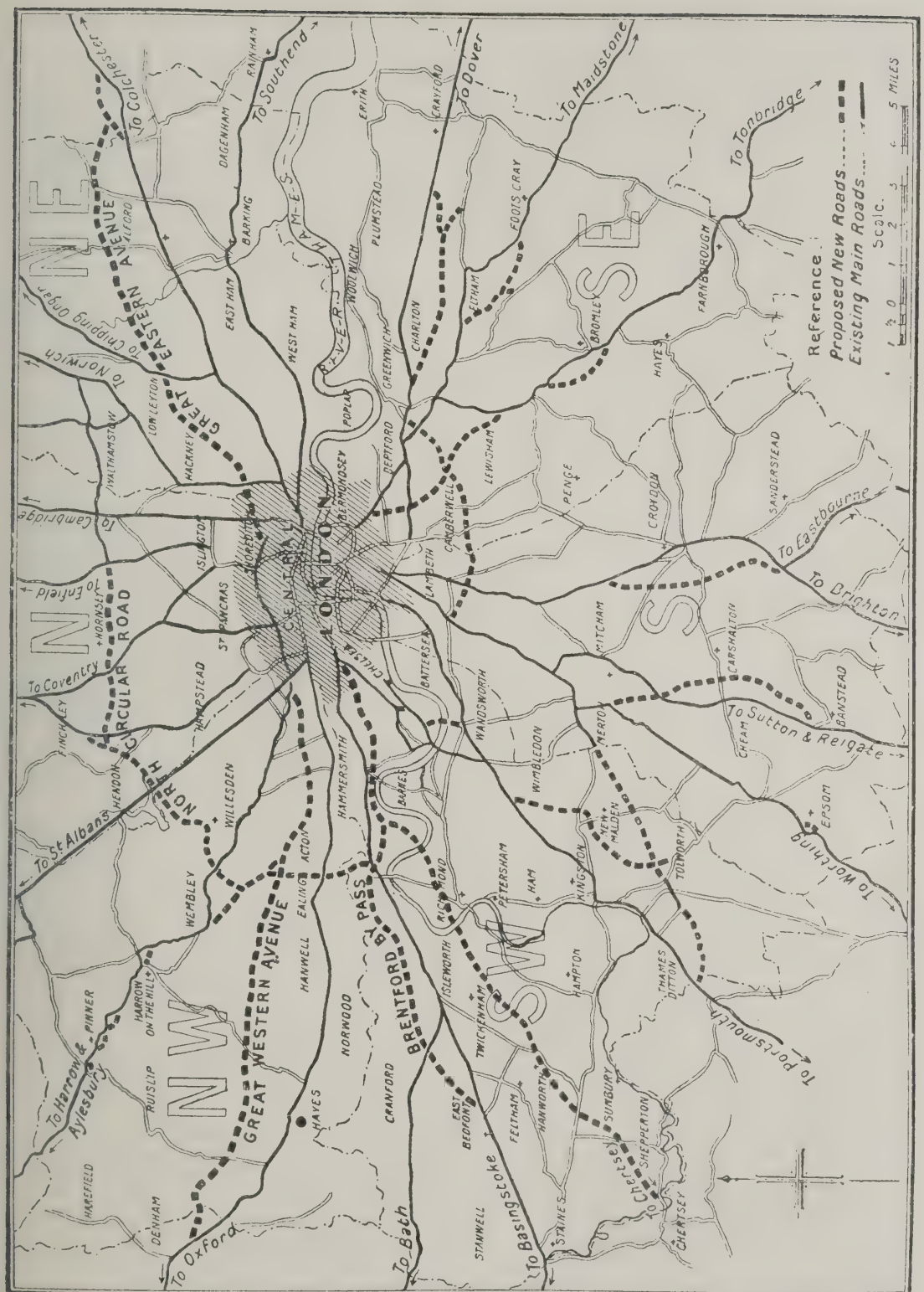
I have drawn elsewhere* the lesson of the Euston Road. With supreme forethought our predecessors in the eighteenth century saw the necessity of a good, wide road linking Paddington and Islington with the city, and, though the land through which they took the road was then open country, they protected it by Act of Parliament, so that when the pressure of urban surroundings should eventually bring with it the temptation to encroachment, such encroachment should be legally impossible. That the encroachment did after all take place was the fault, not of the promoters of the road, but of our own and our fathers' generation.

Our chances of doing what the men of 1756 did are now past; for it can hardly be alleged of any part of even the fringe of Greater London that it still offers the free ground for operations that our ancestors had in White Conduit Fields; but it is clear from the analogy of this bit of history that the proposals of the Board of Trade as to suburban improvements must not be laughed out of court merely because some of them are, as we think, too far from the centre of activity to be for the present pressing.

I have no wish in the present article to describe in detail the road proposals of the Report. I will for immediate purposes leave the map to speak for itself. But I wish to emphasise the possibilities which the future holds in this connection. What, I ask, will be the outcome? Either something will be done or nothing. All things considered (including

* In an article in the *Architectural Review*.

LONDON TRAFFIC: MAP SHOWING THE PROPOSED NEW ROADS.



Reproduced, by permission, from *The Times* of 10th February 1911.

human nature in general and London human nature in particular), the latter alternative is the more probable. This Blue Book, like many of its Blue brethren, will probably sink into oblivion. If this result could merely mean that the scare would pass, and that we should happily relapse into content with London as it is, I for one and many of you, my readers, should be well satisfied. But "London as it is" is unhappily a possession which it is impossible to retain. The growth will go on whether we notice it or not, and the very modest remedies now laid before us will, in a very near future, have to be supplanted by something much less modest and much more costly.

It is therefore at least conceivable that action of some sort will be taken now instead of later. That action brings me to the point which is the only matter for our urgent consideration as architects.

Shall we summon courage to demand that these road improvements and alterations be effected under proper professional advice ; and dare we not suggest that it is an architect's not less than a surveyor's function to give that advice ?

My paper of the 13th February* outlined a scheme of architectural control for the Metropolis. It may not be a perfect scheme. I expect that it deserves both criticism and amendment. But I altogether fail to see any sense whatever in permitting projects of metropolitan design (for it is design) to be incubated without artistic control, and I am certain that my scheme or some other and better must be adopted if such control is to be secured. On merely economic grounds, if on no other, it is folly for a rich and important community to abstain from the common-sense course of engaging the assistance without which its money will be improperly spent.

Above all, we dare not lose sight of the Board of Trade's pathetic appeal for a general plan. That plan absolutely must be made, and when made must be administered. Shall that making and that administration be in the hands solely of road-engineers, traffic experts, and surveyors ? I say No, a thousand times No. The road engineers, the surveyors, and the traffic experts are good fellows, they are absolutely necessary, and they are competent for their work, but through no fault of theirs they are not architects. To leave this business wholly to them is to act like one who commits the cure of his dying child to a dispensing chemist. The chemist's work is allied to healing, is probably essential to it, but your chemist is not a physician.

I finish with a word or two upon certain contents of the Report. Its end is enriched with eight Appendices. The last of these is a readable history of metropolitan roads which gives in a short compass an able survey of the origin and growth of London's highways. Another is a statement on the Railways, and a third is a census of Traffic. The results of this traffic census are in the body of the Report graphically displayed in an ingenious map which exhibits the relative traffic load of each main artery by means of different widths of colouring. This shows at a glance the lines of greatest and least pressure. It is unfortunate that, for some reason or other, this and the companion maps are incomplete in certain details. By a strange omission only one of them contains the name of Hounslow, though it is a roadside hamlet of great length and is alluded to in the text as a locality of importance, and is adopted as one of the census points.

Again, the most important map of all, that which gives the proposed new and altered roads, is merely called in the index a "Diagram showing divisions and existing roads."

The important elements of the Report are to be found in the chapter styled "Preliminary," which is in reality the conclusive portion of the document. The urgency of the whole case is summed up in forcible language on pages 32 and 33.

It will be realised from what I have said above that the Report concerns itself largely with the necessity of increased road facilities in the suburbs. These suburbs include, of course, those outlying hamlets which, by stress of London's growth, have become the fringe of the Metropolis. May I in this connection enforce a special point in which architectural advice is sorely needed and sorely neglected? I take Edgware as an example. Edgware ten years ago had a beautiful old High Street. It was deemed too narrow for trams, and was widened by the horrible process of hacking back the face of the houses all along its eastern side. This was pure vandalism and I venture to think quite unnecessary. When an ancient and beautiful one-street town is invaded by modern locomotion, the obvious and simple architectural expedient is to run the tramway or other new road alongside of the ancient street and clear of its houses; thus forming a fresh and alternative route.* The new route will accommodate the new house property which invariably springs up with the advent of the new means of transit, and the leaving of the old and picturesque street intact will not merely provide an efficient by-pass road, but will also serve to preserve that old-world beauty which is after all one of the assets—probably a monetary asset—of the borough. Five minutes' talk with almost any sensible architect would have saved Edgware : but obviously no such advice was sought, probably on the ground that though architects are known to be of use where the erection of individual houses are concerned, the preservation of a large group of houses is not an architectural question !

* "The Artistic Development of London : The Means to the End." [JOURNAL R.I.B.A. 18th February, p. 257.]

* I am glad to find that some idea of the same sort is advocated in this Report, which recommends by-pass roads in certain positions, *e.g.* at Colnbrook, which is analogous to Edgware.

REVIEWS.

ARCHITECTURAL COPYRIGHT.

Architectural Copyright: a Comprehensive Handbook. Edited by Lawrence Weaver. Including a Correspondence from "Country Life," Three Appendices, and an Introduction by John W. Simpson. Price 1s. ["*Country Life*," 20 *Tavistock Street, Covent Garden, W.C.*]

In this little brochure which has been published at the offices of *Country Life* there are contained a number of letters from some of our well-known architects on the subject of Architectural Copyright, together with an Introduction by Mr. John W. Simpson, and some appendices on the relative position of British and Continental law on the subject.

It is somewhat remarkable that the majority of the writers are more or less opposed to the Bill introduced last session by the President of the Board of Trade, some on the ground that Architectural Copyright would not be an advantage to art, others from distrust of the effectiveness or the scope of the Bill. We can hardly admit the claim of the editor, in his prefatory note, that the brochure puts architects and the general public interested in building "in possession of all the pertinent facts and arguments," although Mr. Simpson has answered many of the objections raised by the eleven other architects whose letters are reproduced.

Most of the objections appear to be founded on an incomplete comprehension of the effect of the Bill and of the practical experience gained in Continental countries where Architectural Copyright has been legally established. Thus Mr. Lutyens asks whether having designed a mantel-piece for A's house he could use the same design for B's. Counsel's opinion is that if the copyrighted work were a complete building the designs for mantel-pieces, cornices, &c., could be re-used even if the copyright had been sold to the employer; but we think that Mr. Lutyens has missed the main point of the Bill, which is, that it creates for the first time in England a copyright in architectural design as a work of art, which an architect is not obliged to sell to his clients. He may design a house, superintend its erection, receive payment for these services, and still retain the copyright of his design. This affords, in counsel's opinion, a means of practically reversing the hardship which architects feel has been inflicted by the decision in the case of *Gibbon* v. *Pease*, for there is a strong probability that the ownership of drawings would be held to follow the ownership of the copyright. The power which the Bill would give to an architect to retain the copyright disposes of the objection raised, not only by Mr. Lutyens but by other writers, that the Bill would discourage the development of architecture by preventing an architect from making a new design which should be an improvement on his previous production. It is obvious that if an architect can either retain the copyright of his design or sell it to his client, he can sell or retain part of his copyright. That is, he can engage not to reproduce the design as a whole, but can retain the right to produce an improved version or to reproduce any particular mantel-piece. The final objection raised by Mr. Lutyens is to a dual ownership in the copyright of buildings which seems to be contemplated in the Bill, but there is little doubt that the clause which might be so construed will be amended.

Mr. Arthur T. Bolton writes in support of the Bill, having been brought in contact with actual instances of flagrant piracy, an experience that brings home to any architect the necessity for the legal recognition of architectural copyright, despite all difficulties and objections.

Mr. Guy Dawber expresses himself in general sympathy with the Bill, but raises two hypothetical difficulties, and asks first, whether minor changes in the design of a building copied in its main outlines would protect an infringer. This is answered in the negative by the Belgian case of M. Hompus, given in Appendix III. of the brochure. Mr. Dawber's second query is whether if the copyright be vested in the architect, the building owner would be prevented from making subsequent alterations without the architect's consent. This could scarcely be so, for the essence of copyright is that it prohibits illicit reproduction, and alteration is not reproduction.

Mr. Voysey is entirely opposed to the principle of copyright because he thinks it drags the art of architecture down to the level of commercialism. "Nothing," he says, "so degrades the artist as the thought of reward while at his work." But he proceeds: "When done, let him by all means attend to the commercial side of his life as a necessary consequence of his labour." Thus, it seems to us, he answers his own argument, for copyright does not begin until the artist has completed his labour of love. Mr. Voysey and an anonymous writer "G. C." both refer to Mr. Justice Scrutton's apprehension of difficulty in deciding what are new and original houses. A reference again to Appendix III. shows that the difficulty has, in Continental practice, proved imaginary, and the present writer's experience as a witness in the case of *Runtz and Ford* v. *Baker* has shown him that it is perfectly possible to prove to a British Judge and jury in the High Court that a certain building, even with minor alterations and mutilations, is a plagiarism of a certain design. Mr. Voysey has misread section 7 of the Bill, which he will see, if he refers to section 4, prevents the owner of architectural copyright from taking possession of a building infringing that copyright, and thus differentiates between such infringement and the remedies provided in the case of pirated music, books, &c.

Mr. Ernest Newton, Mr. Morley Horder, Mr.

Sydney Kitson, Mr. Lorimer, and Mr. Quennell all write very much from the same point of view, which may be summarised in Mr. Newton's words that "architectural copyright would be embarrassing to the architect and fatal to the natural development of architecture." But development is not piracy, and the evolution and progress of an artist could never be mistaken by a British Judge and jury for copying. There is plenty of material in the "domaine public" for the architect without originality, and plenty of scope for the artist in the production of fresh combinations of that material. But let us put a concrete case. Is it desirable that the present state of things should continue, that anyone who chooses to do so may put up a replica of "Ardenrun" in the next parish without let or hindrance from Mr. Newton or his client? Would Mr. Newton say that such "intelligent plagiarism is all to the good"? And if he did, would his client agree? Such an experience may not, as yet, have occurred to Mr. Newton, but it has been the lot of other architects, and it is for them that Mr. Simpson pleads: "Though the aristocrat of art, secure in the knowledge of limitless reserves at his own disposal, may disdain to guard his treasure, let him not therefore deprive his humbler brother of the protection he desires for his smaller store." We may add, that if Mr. Newton or any other artist desires his own work to be plagiarised, the possession of the copyright will enable him to grant permission for copying to anyone he pleases.

Mr. Reginald Blomfield is pleased with the recognition of architecture as an art, but is not satisfied with the Bill. He says: "The man who has the veto is the real man, and the man who has the veto is not the architect but the man who employed him." Thus he ignores the provision of the Bill "in the absence of any agreement to the contrary," which gives the architect the power, to which we have already referred, to design and erect a building without parting with the copyright All that is necessary is to inform our clients that the customary 5 per cent. does not include copyright, and this no doubt will be a stipulation in the next revision of the Institute Scale of Charges. Like Mr. Voysey, Mr. Blomfield appears to have misread clause (or section) 7, which he also misquotes by omitting a material portion. One weakness in the Bill Mr. Blomfield correctly notes, that it does not prevent anyone making a set of working drawings of a copyright building. This will doubtless be amended. We cannot agree with Mr. Blomfield that the definition of "architectural work" in the Bill implies that architecture is building plus ornament. Rather it recognises that you may have building without artistic character, which is not architecture, and building with artistic character (quite a different thing from ornament, which is not mentioned in the Bill), and this is an "architectural work."

An excellent letter from a barrister explains from a legal point of view some of the misconceptions that have obscured the judgment of several writers. FREDERIC R. FARROW [*F.*].

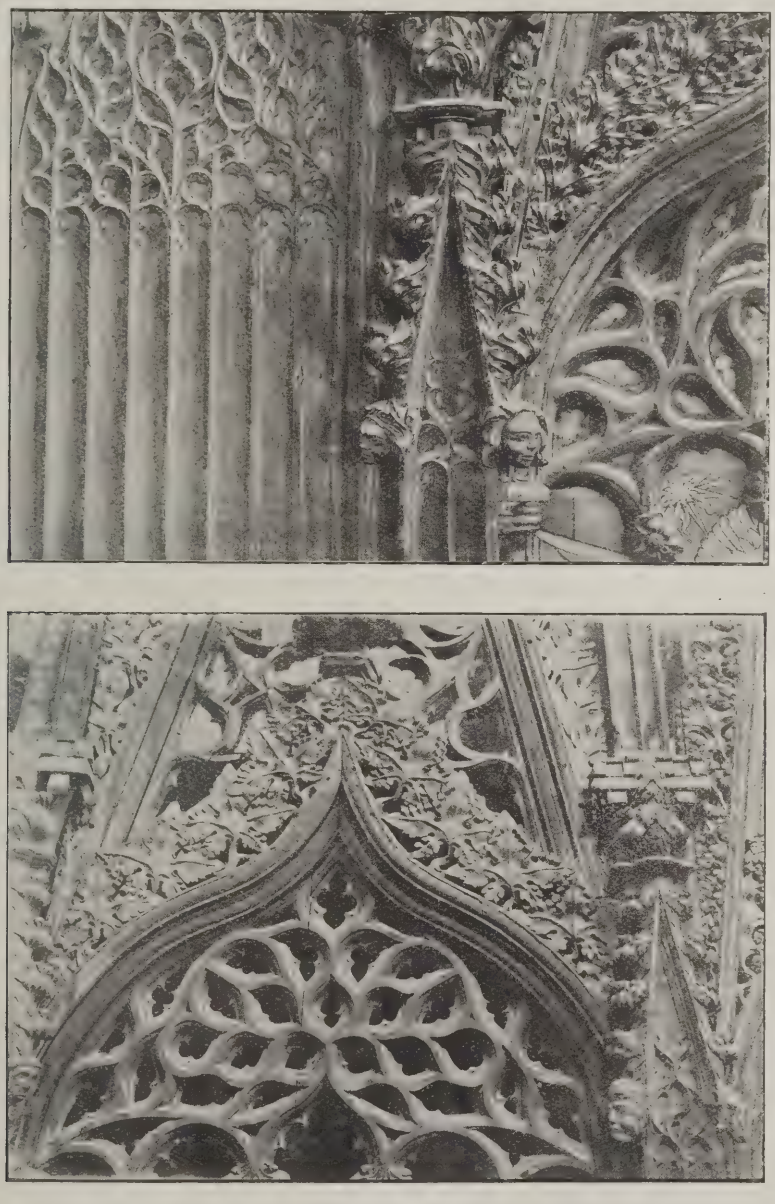
MEDIÆVAL CHURCH FITTINGS.

Stalls and Tabernacle Work. By Francis Bond, M.A., Hon. A.R.I.B.A. 8o. Lond. 1910. *Price* 6*s. net.* [*Henry Frowde, Oxford University Press.*]

Another book on the fittings of our mediæval churches calls for notice and deserves a welcome. That there are many who judge everything by a present-day value cannot be denied, but they, in their quiet moments and away from commercial pursuits, are not wholly indifferent to the claims of the past, and one cannot but hope that these excellent books which Mr. Frowde is giving us may reach even these, and help them to form higher ideals and to generate a better love for ancient things which no amount of money can replace. Mr. Bond, the author of "Stalls and Tabernacle Work," enthusiast though he be for all things Gothic, is not blind to the charms of the work that follows, and in this he shows a marked contrast to those who wrote and worked in the days of the Gothic Revival. True it is that there were giants in those days to whom we owe much, but they were men of prejudice. How many of them could see any charm in work that was not Gothic? How much is there that many of the present day would not gladly undo? A visit to many of our noble buildings makes us wonder how such things could have been done. A visit to Durham is sufficient. There, marking a most important epoch in our ecclesiastical and national history, was to be found work almost unique in its character and in the amount of it. What do we find now? Screens torn from their places, other work mauled, and a sham Gothic font taking the place of a genuine seventeenth-century one, under a font canopy with which it has practically nothing in common. Mr. Bond avoids the errors of the past and shows a practical well-balanced mind, a sound common-sense, which make his books interesting and a pleasure to read.

In his latest book, which is a worthy successor to those which have preceded it, we are given a subject which has not been dealt with, not even in the days of the Gothic Revival, by itself. It is a subject which has received much less attention than is its due. The book is divided into two parts, the first dealing with stalls in our cathedrals and the larger ecclesiastical establishments, the second with bishops' and abbots' thrones, and with chairs to be found in churches. Mr. Bond is not only a capable writer, but he is also a capable judge in the matter of illustrations. Taken as a whole it would be difficult to find a better collection, and in a collection so uniformly good it is difficult to give credit to one photographer rather than another. I think, however, the palm must be given to Mr. F. H.

Crossley, of Knutsford, some of whose photographs have been selected to illustrate this review. They are works of art, and they are the work of one who loves the past. The illustrations throughout



LANCASTER.
From *Stalls and Tabernacle Work.*

enable one to follow the writer's careful text, and there is not a dull page anywhere. In the first few pages we get a glimpse of the love that our forefathers had for their churches. Money could have been no object when we realise that the stalls of Wells cost about £18,000 of our present money. Our next chapter gives us a history of the development of stalls and their position in the buildings they occupy. To the cathedrals of Milan and Venice, with seats behind the High Altar, might be added that of Pavia, and no doubt others. This chapter is also useful to those who have visited the Romanesque Cathedrals of the Rhine Provinces and have been bewildered by finding a High Altar

at each end of the building. In Chapter III., dealing with canopied stalls, the author performs a useful service by giving us the evolution of these and showing how one large establishment would improve upon the work of another establishment which had carried out stalls but a few years previously. One cannot call it "cribbing," but it goes very near it. One can but hope that it will not be used as an excuse for present-day tendencies!

The Black Death and its effect on architecture was not until within the last few years given its proper place in shaping the destinies of men and the work of their hands. Mr. Bond refers to it more than once. Do we realise, even now, how each period displays the characteristics of the age? Do we see in Norman work the firm hand, the iron rule, the wise aim of the Norman? Do we in Early English work see the nation struggling, striving, coming to its own in literature, Church and State, rising superior to its surroundings, conquered gradually absorbing conqueror? Do we in the Decorated work see the nation enjoying in their fulness the privileges for which they have so long struggled, generous, open-hearted, anxious that all should enjoy the fruits of their labours? What a wonderful period centred round the year 1300 throughout the whole of Western Europe! Then, just as so few can stand success, so liberty in the nation appeared to be degenerating into licence. In the illustrations of Lancaster do we not see the purity and restraint of about forty years previous gradually giving way to a less noble ideal? Then, when men had forgotten, or were beginning to forget, that life is one continuous struggle, grim Death, stalking in their midst, brought home the fact as only he can bring it. And what a change comes over the scene after he has passed along. The whole of the economic conditions of the country had altered, and we may, I think, place the beginning of our present commercial system there. The work is more restrained, but it bears upon it the stamp that money did it and not love. We see this in the illustrations of Norwich, of Sherborne, of Chester, in fact of all work subsequent to 1360. One may say the Black Death marks the division between the canopy with its openness and the tabernacle with its complicated work, the latter the result of wealth. Mr. Bond carefully separates the two.

It is a pleasure to find the author speaking sympathetically of the Durham work, and wishing we had more of the delightful admixtures of Classic and Gothic. Would that a previous generation had felt likewise! It is interesting to know that nearly all our stalls were made by native talent and of native material. It is true that there are exceptions, but the exceptions are very few.

In Chapter VI. we are treated to one of the most interesting parts of the book. In this the stalls of the ordinary parish church are dealt with, and we find ourselves among the people and no longer among the great ones of the earth. We get the development of the chancel, its extensions, those for whom the stalls were provided, the cost of the stalls, and many other important points. Not the least interesting is the fact that our forefathers knew what dry-rot was, and that the best antidote was good ventilation. Then the writer takes us along and shows us the church with its choir and living units. Here, most of all, he is at his best. One can see the choir poring over its books, can see it straining every nerve to make the music a success. In reading these pages one can almost hear the plain-song and prick-song as it leaves the mouths and lips of the choir. One sees the older members swelling their chests and contending in goodly fellowship each to excel the other, and one sees the younger members, in sly movements, pinching and prodding their neighbours as hath ever been the wont of choir boys and ever will be until time and flesh shall be no more. Mr. Bond does indeed make these pages live, and one would like to see him with his masterly skill write a book on "Work and Play in the Middle Ages." He would find all he needs for illustrations in the old carvings with which our churches still abound.

The second part of the book, dealing with thrones and chairs, calls for little comment. It is quite as good as the rest, but one feels that the question of chairs has only been touched upon. A collection of photographs of old chairs in our churches would fill a book by themselves.

Enough, I hope, has been said to show that the book is worth having and reading. There are very few loopholes for adverse criticism. On page 25 in the seventh line from the bottom the word "together" has got in, and makes it look as if the Southwell Canons hired themselves out to medical students and then were resurrected! Possibly Mr. Bond hails from Norfolk! It is hardly fair, however, to mention a slip like this in a book which is so uniformly good.

GEORGE H. WIDDOWS [*A.*].

Mr. TEMPLE MOORE [*F.*] has been appointed by the Dean and Chapter of Rochester Cathedral architect to the Cathedral.

Mr. ALEXANDER N. PATERSON [*F.*] has been elected Associate of the Royal Scottish Academy.

We are asked to announce, for the information of competitors, that the date for sending in designs for the International Competition for the proposed "Modern Olympia," which is being promoted in France under the patronage of the President of the French Republic, has been extended to April 10, when all drawings must be in the hands of M. Gaston Trélat, Director of the Ecole Spéciale d'Architecture, Paris, 254 Boulevard Raspail, Paris. The assessors are to be presided over by M. Th. Homolle [*Hon. Corr. M.*], Membre de l'Institut and Director of the French National Museums.

9 Conduit Street, London, W., 18*th March* 1911.

CHRONICLE.

St. Paul's Bridge.

The Times of the 11th inst. published the following letter addressed to its Editor from the President of the Institute :—

Sir,—The great interest the public has taken, and is taking, in the subject of the proposed new St. Paul's Bridge, as evinced by the numerous articles and letters in the public Press, must be my excuse for again addressing you on the subject.

Hitherto the principal objection urged against treating the bridge as a great public improvement has been the large extra cost of so doing, roughly estimated at £1,000,000. My present object is to show that nearly £2,000,000 might be saved and very nearly the same results achieved.

The proposal of the Corporation is to deal with two bridges, viz. Southwark Bridge, which is to be rebuilt, and the proposed new bridge, and my contention is that if Southwark Bridge were properly rebuilt there would be very little need, if any, for a second bridge—close to it—at all.

The present gradients over Southwark Bridge are so bad that the bridge is hardly used, and the improvements proposed to be introduced when it is rebuilt are so slight that it is evident the Corporation do not expect it to be much relief to the traffic, or they would not propose to build a new bridge within a stone's-throw.

Now if Southwark Bridge were rebuilt more on the lines proposed for St. Paul's Bridge, with a viaduct starting from Cannon Street and crossing over Thames Street, the question of gradients would be solved, and most of the traffic proposed to be taken by St. Paul's Bridge could pass over the rebuilt Southwark Bridge, and the traffic from Thames Street could easily come up a new street (alongside the viaduct) extending from Thames Street practically to Cannon Street, where it could join the new viaduct.

The extra traffic thus attracted to the heart of the City would be quite as much as could be well dealt with under present conditions, and if further north and south traffic has to be provided for it would be much better to form some other route for it, away from the heart of the City, where the congestion is already bad enough.

As to the trams, these already cross Blackfriars Bridge, and might be extended along Farringdon Street, so as to avoid any possible danger to St. Paul's Cathedral.

It seems to me that at any rate a good case for further inquiry has been made out. A year or so is a very short time in the life of a city, whereas a mistake once made lasts practically for all time. I see that the Corporation have accepted an invitation to go to Vienna, and I venture to suggest that after they have seen the magnificent manner in which that city has been remodelled they may be inclined to deal with this question of bridges in a manner worthier of the capital of a great Empire. I therefore appeal to them—and I hope, Sir, you will back up the appeal—to withdraw their Bill which they now have before Parliament and to reconsider the whole subject; and may I further suggest that the public would much appreciate the courtesy of the Corporation if it were to refer the matter to a Special Committee formed, say, of present and past Lord Mayors, present and past Chairmen of the London County Council, and, say, a few other public men, such as Mr. John Burns and H.M. First Commissioner of Works?

Yours faithfully,

Leonard Stokes,

Westminster, 9th March. *President R.I.B.A.*

Election of Licentiates.

At the Council Meeting of the 13th March the following candidates, having been found eligible under the Charter and By-laws, were elected Licentiates R.I.B.A., in accordance with the provisions of By-law 12 :—

AGATE : Charles Gustave (Manchester).
ARMOUR : John, Jun. (Irvine).
BAILEY : Stanley (Stockport).
BARBOUR : John (Glasgow).
BENNETT : Thomas Percy (Manchester).
BEVAN : John (Bristol).
BEWLAY : E. C. (Birmingham).
BIRKENHEAD : G. A. (Cardiff).
BOND : Wilfrid (Grantham, Lincs.).
BOTT : Giles Herbert (Manchester).
BRIDGMAN : Henry Hewitt (Oudtshoorn, Cape Colony).
BROWN : Arthur Harold.
BROWN : George (Manchester).
BUCKLAND : H. T. (Birmingham).
BURKE : Edmund (Toronto, Canada).
BURLEIGH : Alfred B. (York).
BURNLEY : Tom (Wakefield).
BURTON : John Harold (Bury).
BUTTERY : Thomas Albert (Morley).
CARTER : Alexander Scott.
CHAPMAN : George A. (Bristol).
CHARLES : John W. (Leeds).
CLAXTON : James Whiteford (Seaham Harbour).
COWAN : W. C. (Ontario, Canada).
COX : G. A. (Birmingham).
CREASER : William Henry (Nenagh, Co. Tipperary).
DAY : Sidney Reyner (Leeds).

DEWDNEY : Ernest Arthur.
ELLWOOD : James.
EVANS : James Henry (Manchester).
FRANKLIN : Daniel Moss.
FROUD : John Maynard (Bristol).
GARDINER : Frederick William (Bath).
GARRETT : E. (Birmingham).
GILCHRIST : Charles Ramsay.
GILLAM : William Charles Frederick (Brighton).
GODDARD : Frank (Coalville).
GREENLEAVES : E. (Pontypridd).
HAMMOND : Frank (Hamilton, Victoria, Australia).
HARMER : Henry George (Shanghai, China).
HARVEY : W. A. (Birmingham).
HAYWOOD : W. (Edgbaston).
HAYWOOD-FARMER : E. (Birmingham).
HEATHMAN : H. (Bristol).
HENDERSON : Harold Edgar (Leeds).
HENSHAW : Thomas Vicars.
HIGGINS : Henry (Glasgow).
HILEY : H. S. (Cardiff).
HOOPER : Frank Billett (High Wycombe).
HORSEMAN : William George.
HORSER : Cotterell Walter.
HOWARD : Alfred.
HUNT : Edward Arthur.
HUNT : William.
JAMES : Charles Dearman.
KEMPTHORNE : C. H. (Cardiff).
KENNEDY : William (Manchester).
KNEE : W. H. (Bristol).
LANG : James Henry (Manchester).
LEWIS : Harold Henry Graham.
LEWIS : W. Morgan (Cardiff).
LOWDELL : William Thorold.
MANN : Ernest Albert.
MARTIN : Arthur Campbell.
MATTHEWS : Richard (Nantwich).
MUNFORD : William David Towell (Preston).
NEEDHAM : Samuel (York).
NEWBORN : Charles Reginald.
NEWTON : Francis Giesler (Jerusalem, Palestine).
O'BRIEN : E. (Bourneville).
OPENSHAW : Frederic Evelyn (Oxford).
OVERALL : Percy George (Waterford, Ireland).
PENNINGTON : George Farquhar (Pontefract).
PHIPPS : Paul, B.A. Oxon.
RANEY : Frank (York).
RECKITT : Frank Norman, M.A.
REID : Thomas John Miller (Liverpool).
REYNOLDS : E. F. (Birmingham).
RIDER : Harry Edwin.
RIGBY : Reginald (Manchester).
RUTHERFORD : James Hervey (York).
SANT : J. A. (Cardiff).
SEANOR : John Joseph (Manchester).
SHARP : Walter Richard (Manchester).
SHEPPARD : Arthur Edward (Newport, Mon.).
SHERWIN : Charles Procter (Newcastle-on-Tyne).
SIMISTER : H. W. (Birmingham).
SMITH : James Forbes (Edinburgh).
STEWART : Donald Alexander (Perth).
SYKES : Edward (Manchester).
TANNER : Gilbert W. (Bristol).
THOMAS : Percival Hartland (Bristol).
THOMPSON : Charles Clayton (Derby).
THOMPSON : Charles E. (Bristol).
THORP : Clifford (Whitefield, near Manchester).
THORPE : Fred. (Oldham).
TONGE : George Edward (Southport).
TOYE : Edward J. (Londonderry).
TWIST : W. N. (Birmingham).
WAIN : T. B. (Coalville).
WALKER : Ernest Robert (York).
WALLER : Frederick Runton (Hull).
WARD : Kenneth (York).
WEBB : Leonard Charles.
WHITE : Charles H. (Bristol).
WHITE : John (Birmingham).
WOMERSLEY : Godfrey (St. Leonards-on-Sea).
WRIGHT : John Alfred (Bristol).

Cities and Town Planning Exhibition.

The Exhibition which was temporarily set up in Crosby Hall, Chelsea, has now been removed to Edinburgh under the auspices of the Corporation of the City. It was opened on the 13th March and is to remain on view for three weeks. The exhibits include a collection of photographs, lent by the Royal Institute of British Architects, of some of the most interesting subjects at the Exhibition held at the Royal Academy in connection with the Town Planning Conference last October. The Exhibition is being rearranged to suit local conditions, and the "Survey of Edinburgh," which formed a part of the late exhibition, is being considerably extended and developed. A series of lectures and discussions is being arranged, not only for those interested in the technical aspects of town planning, but also for teachers, doctors, and others whose work specially bears on the general question of city development. Papers are also being read on the economic aspects of geology, agriculture, and fisheries, all of which bear on the growth of a city which has at once a rich coal district, valuable agricultural land, and a growing port, all within a very few miles of its centre. Arrangements are being made with the School Board for the admission of parties of school-children under guidance and at special hours; and the exhibition will also be open free in the evenings after the first week for the benefit of working-men and others who cannot visit it during the day. A cheap season ticket is also being provided admitting to the Exhibition and all lectures and discussions.

Whitgift Hospital.

The Local Government Board has announced that it is not prepared at present to issue the provisional order sought by the Croydon Borough Council for compulsory powers to widen North End, bringing the new frontage line within about 40 yards of the Whitgift Hospital. The Board, it is stated, can give no decision until the complete scheme for the widening of the thoroughfare has been placed before them. The Council will now be compelled to decide either to move for the demolition of the hospital, or adopt one of the alternative schemes for avoiding it by continuing the widening on the other side.

The late John M. Carrère.

At the General Meeting last Monday reference was made by the Hon. Secretary, Mr. Henry T. Hare, to the loss which the profession in America

has sustained by the lamentable death of Mr. John M. Carrère, of the eminent firm of Carrère and Hastings, of New York. Mr. Carrère, who was only fifty-two years of age, succumbed to injuries received as the result of a collision between a tram-car and a taxicab in which he was riding. Mr. Hare reminded the meeting that Mr. Carrère was to have read a Paper on the New York Public Library before the Institute this session, but finding that he could not be in England at the date fixed, it had been arranged that he should read the Paper next session. Mr. Hare went on to say that Mr. Carrère's nomination as Hon. Corresponding Member of the Institute was on the Council agenda for consideration at their meeting that very afternoon, and his untimely death had deprived the Institute of the honour of numbering among their members an architect so gifted and distinguished. On the motion of Mr. Hare the Meeting resolved that the regrets of the Institute be entered on the Minutes, and that a vote of sympathy and condolence be conveyed to his relatives.

Mr. Carrère, who was born in Rio Janeiro in 1858, was of French extraction, his great-grandfather having emigrated to America from France and become an American citizen. He was educated in Brazil and Switzerland, and afterwards entered the École des Beaux-Arts, where he became "élève de première classe." Returning to the United States, he passed three years in the office of Messrs. McKim, Mead and White, and in 1884 started practice on his own account in New York. The following year he entered into partnership with Mr. Thomas Hastings, also a former student of the École des Beaux-Arts and sometime draughtsman with Messrs. McKim, Mead and White. The young firm came prominently into notice in the great competition for the Cathedral of St. John the Divine, New York, when their Renaissance design was placed first by the assessor, Professor Wm. R. Ware. The design, for some reason, was rejected by the building committee, and another selected for execution. Since then, however, their work has been executed in every part of the United States and Canada, and has strongly influenced the architecture of the country. The Society of Beaux-Arts Architects was founded in 1894 at Mr. Carrère's suggestion, and several ateliers were formed to work under its auspices. He was the first chairman of the American Institute Committee on Education, and he outlined the course in architectural design which has revolutionised the system formerly prevailing in the American colleges. Mr. Carrère was mainly responsible for the code of ethics for the profession which was adopted by the American Institute some year or two ago.

ALLIED SOCIETIES.

The Manchester Society of Architects.—At a meeting of this Society, on 23rd February, Mr. Ronald P. Jones delivered a lecture on "Sicily"—the two great architectural epochs, that of the Dorian civilisation of the fifth century B.C., and the Norman of the twelfth century A.D., being illustrated by slides. Architects, said the lecturer, were too apt to regard Greek architecture as a matter of modules and profiles, to study it in the inadequate line diagrams of the text-book. Construction, materials, and building methods were frequently ignored, and the buildings studied in parts rather than as a whole. Consequently the variety of the actual work was seldom realised. We are too apt to gauge Greek architecture only by the Athenian masterpieces. The Sicilian colonists represented specially adventurous and vigorous members of the mother community, and founded cities far more populous and magnificent than those of their birth. The Temple of Segesta formed a good introduction to the study of Sicilian architecture. Its splendid isolation among the limestone hills, its restrained and reposeful style, provided an extraordinary instance of a weight of effect obtained by simple means. Here were to be found imposing scale and sombre magnificence, where all the refinements of detail were absent. It had come down to us as it left the hands of the builders, perfectly preserved, but still unfinished, for the building operations were rudely interrupted by invasion in 409 B.C. This being so, it formed one of the most lucid illustrations of Greek methods of building. The peristyle was built before the cella, and the flutes were added after the erection of the drums. The rough local limestone, of which the Sicilian temples were built, was faced with a film of marble stucco, in which the mouldings and refinements were worked. This fine surface was polished and coloured. The Greeks had not the modern appreciation for the beauty of material in itself, just as they had not our love of natural landscape. To them, Pentelic marble was the best building material available, ensuring the highest possible finish. In Greece and Sicily the blaze of pure white marble was too dazzling, and the subtleties of form and light and shade could not be appreciated unless the material was toned down with colour. The Greeks aimed at the highest possible finish, and looked upon joints as evils to be concealed by every possible means. Accordingly, in Sicily, by veneering the rough porous material, the difficulty of jointing was eliminated and a monolithic appearance obtained. In order to understand these Sicilian temples we must visualise their gay and decorative effect, their veritable blaze of colour, set among luxuriant groves. The remains at Girgente were placed in surroundings less tragic and isolated than those of Segesta. One of the largest and most luxurious of the city States of the ancient world, Girgente, with its population of 400,000 inhabitants, exceeded even Athens itself in scale and magnificence. The traveller approaching from the sea beheld a group of buildings of almost unparalleled splendour. Seven great temples crowned a long narrow ridge of rock 1½ miles in length and 300 feet above the plain. The Greeks took advantage of the natural site, and did not level the rock as the Romans would have done. The great building period was from 480 to 410 B.C. In the Temple of Concord we had one of the best preserved of Greek buildings, in that of

Zeus the most colossal and one of the few failures, the scale being beyond the possibility of the style. Passing to Palermo the lecturer contrasted the internal magnificence of the mixed style of the twelfth century, as seen in the Capella Palatina and Monreale, with the external architecture of the earlier Greek civilisation. The beauty of these mosaics, with their wealth and colour and logical treatment, was unsurpassed. Those only who had been to Sicily could realise its charm: to them the name of Sicily had an attraction before which even Italy must take second place.

The Royal Institute of the Architects of Ireland.—An interesting address was delivered by the Lord Lieutenant of Ireland on the occasion of the annual dinner of this Institute, held at the Shelbourne Hotel, Dublin, a few evenings ago. Replying to the toast of "The Lord Lieutenant and Prosperity to Ireland," proposed by Mr. Albert E. Murray, R.H.A. [*F.*], President, Lord Aberdeen said:—This occasion helps us to realise some things about the architect's profession and work which are not always before our minds. The calling of an architect is a peculiarly comprehensive one. Thus, for instance, the true architect is essentially an artist, and his art is eminently such as to benefit humanity. We may call to mind such words as these—

> He, too, is blest, whose outward eye
> The graceful lines of art may trace,
> While his free spirit, soaring high,
> Discerns the glorious from the base,
> Till out of dust his magic raise
> A home for Prayer and Love, and full harmonious Praise.

The poet was doubtless thinking of a cathedral, that crowning glory of architectural science and art. Who can estimate the aggregate amount of inspiring and soothing influence to mankind derived through many centuries from the existence of cathedrals, not only as the habitations of religious ordinances, but from the sight which these noble structures present, free and open to the view of all? And yet if, as regards many of the finest cathedrals, the question is put, "Who was the architect?" the answer must be "No man knoweth," and, indeed, it is one of the distinctive features of many of the greatest architectural creations of the past that the names of those who designed, and thus, in a sense, contributed these gifts to their fellow-creatures, have vanished from the knowledge of mankind. It is different in the case of the achievements of painting or music, and it would be interesting to discuss that fact and the reasons for it, but I am afraid that would be outside the scope of an after-dinner speech. The art element in the profession of the architect is, of course, recognised in the fact that members of it are included in the notable names of the Royal Academy; but, though the profession has its artistic and its poetical side, it is also, of course, eminently practical. The architect, indeed, must be to a considerable extent a civil engineer. But especially your profession is essentially one which involves a wide experience of human nature. I mean human nature not merely at large, but in sections. You have to deal with the nature of contractors, and also, indirectly, with the nature of the artificers, the two elements being often far from harmonious. Then you have also the nature of the client to deal with, and I suppose he, too, may occasionally be a trial. But you, perhaps, ask how I can be expected to know anything about the experiences of architects with clients and so forth. Well, though it may seem strange, I have had the opportunity of being brought into contact with not a few of the best-known members of your profession, partly owing to the fact that I have been the means of building two houses from bedrock—one in London and another in Scotland—and also remodelling and restoring three houses in addition. The first eminent architect with whom I came in contact was the late Mr. George Street, who designed for us a beautiful chapel at our home in Scotland—and very interesting it was to watch him working at the plans from the very outset in my library, with paper and pencil in hand, and, as I need scarcely say to you, giving as much thought to the details of the work as if he had been engaged on a cathedral or a palace. Since then, in connection with other work, I had to do with the late Mr. Waterhouse, who, as you know, was one of the senior Royal Academicians; Mr. Sydney Mitchell, the late Mr. Wardrop, of Edinburgh, and Mr. Wimperis, of London, and I am glad to say I still claim some connection with your profession, namely in the person of an esteemed member of your Council, Mr. Ashworth, and also in consultation with your President, but for this work in Dublin, I must admit, Lady Aberdeen is primarily responsible. The Board of Works, too, are busy at the Viceregal Lodge, and also the Castle, and we rejoice to know that all this contributes in some degree to the activity of the building trade. But of course when we speak of the human element in your profession we are led particularly to think of how much the comfort and welfare of human beings depend upon the work which the architect can direct, and which he can carry out to any extent, if only the opportunity and the means are available. There comes the crux. A few days ago I contemplated a melancholy sight. Standing on what will be the attractive roof-garden of the new dispensary in Charles Street, which, through the wise generosity of a friend, Lady Aberdeen has been able to erect in accordance with the excellent designs and supervision of Mr. Ashworth, I espied a mass of disused ruined houses, standing there in the heart of the city, a dismal, depressing spectacle. Why depressing? Because if the means were provided that ground could be cleared for the erection of healthy dwellings, providing something worthy of the name of homes for human beings. Such a thing has been done before our eyes in the case of the munificent action of Lord Iveagh in another part of the city. Of course an alternative method would be the erection of buildings outside the city, with the advantage of fresher air and open space, while the excellent tramway and other facilities would enable the occupants to travel to and from their work. But meanwhile the evil of overcrowding exists in our midst to a terrible extent. Perhaps it may be asked, could the municipality do more to grapple with this problem? Well, when putting such a question as that it is only fair to ask another, and that is—In what other city has the Corporation to deal with this problem in such formidable dimensions as in Dublin? One reason why the overcrowding is so great in Dublin is, apparently, that at a former period the hospitals of the country were almost entirely in this city, and that brought in many of the poor from the country districts, and, as we all know, people are more apt to come into a city than to go out of it. Moreover, as a matter of Poor Law administration in England and Scotland, paupers can be sent back (by the Law of Settlement) to their original town or parish, but in Ireland the practice has

been to land Irish persons so sent back at the nearest port, which is usually taken to be that of Dublin. The last census—namely, that of 1901—showed that one-fourth of the entire population of Dublin lived in one-room tenements, and, moreover, the returns would also show that more than 8 per cent. of every 100 tenements of all kinds were one-room tenements, having five or more occupants in each. We realise the distressing significance of this statement when we further learn that this proportion shows twice as many such tenements as in Glasgow, compared with the population of that city, also nearly four times as many as in Edinburgh, and thirty-two times as many as in Liverpool. The excess of such tenements as compared with Belfast is even greater, and still more so in Manchester, where such one-room tenements are only a small fraction of the whole ; and again, if we take the number of people out of every 10,000 who live in one-room tenements (with five or more occupants), we find that in Dublin the number is 1,061 out of every 10,000 of the population ; in Glasgow 524 out of every 10,000 inhabitants ; Edinburgh, 233 ; London, 70 ; Liverpool, 24 ; Belfast, 10 ; Manchester, 5. These figures, as I said, are taken from the census of ten years ago, and we may certainly hope that when the results of the next census appear a definite improvement will be shown. But there can be no doubt that at the present moment the problem exists in a portentous form, and this is fully recognised by authorities on the subject, both as to the facts and the results.

The Glasgow Institute of Architects.—The forty-third Annual Report of the Council of this Institute states that during the past year the Council has had submitted to it a proposed course of architectural training in the Glasgow School of Architecture. A Committee was appointed to confer with the Joint Committee on the School of Architecture on the subject, and a scheme has been framed which provides for a combination of practical training in the office and attendance at Day Classes in the School of Architecture. The matter is still under consideration. In accordance with the decision that the Institute should hold from time to time exhibitions of designs submitted by members and others in competitions of importance, an exhibition of the designs submitted in the competition for the National Museum of Wales was held for a week in April last, when nine sets of drawings were on view. The question as to the representation of architecture in the Scottish National Exhibition to be held this year was raised, and it was agreed to call the attention of the Modern Art Section Committee to the omission of this branch of art. The Council is glad to report that the Executive Committee have agreed to allocate space for the exhibition of architectural designs in the Fine Art Section. The Council has taken an active part in bringing the matter of Licentiateship of the Royal Institute before the notice of members and other architects in the province of the Institute. A communication from the R.I.B.A. with reference to Standardisation of Plumbers' Work has been considered, and as the scheme had as its intention the raising of the standard of plumbers' work the Council approved of and agreed to support its objects. The proposed Scottish National Memorial to King Edward has been taken into consideration, and it was unanimously agreed that, while expressing sympathy with the proposal for the erection of consumptive sanatoria, something of a monumental nature was more in keeping with the object. The Institute unanimously favoured the restoration of Linlithgow Palace in preference to any other of the proposed schemes, and a memorial on the subject has been forwarded to the Central Committee and to the Glasgow Corporation.

Mr. John B. Wilson [*F.*], President of the Glasgow Institute, in the course of some remarks moving the adoption of the recently presented Annual Report, said :—An important item in the Report is that which refers to the new scheme of Architectural Education. Here there is room for wide diversity of opinion as to the methods—but I am satisfied that we are all at one in the desire that our younger students should have of the best. We know that many able, even brilliant, men have been trained in our midst under the old régime of the regular office apprenticeship, with such additional training as the old morning and evening classes of the School of Art and Technical College could give, and have gone forth to make their name in the world. But we do not know how much better these men might have been with a fuller and more thorough training, such as is now possible. The problem now before us is so to suit the requirements of office work with the advantages of the more academic training. I am myself a strong believer in the usefulness of the regular office routine of apprenticeship, and am somewhat sceptical as to the advantage of testing youths in the design of a palace before they even know the usual width of a door or the height of a stair-step; but I also am fully aware that much can be done, and should be done, to improve on our present system. The Joint Committee are giving all these points very careful consideration, and I am hopeful that we shall arrive at a scheme which will give all the advantages of the academic training without unduly breaking up the usual office work. Another tender and thorny subject is that of competitions. There we have had a wide range of selection during the year, from those, such as the Usher Hall and Queen's College, with excellently arranged conditions, down to the other end of the scale, or say outside any scale at all, such as New Cumnock Church. With some of those within our district the Council have endeavoured to deal, but with slight success, but now that the R.I.B.A. have finally adopted the new code of Regulations—or should I say "Suggestions"—our hands may be strengthened. But let me repeat what I have said before on this subject, that if we are to have better conditions the improvement will not come from pressure upon competition promoters until it comes from ourselves. So long as we have architects offering their designs under the most unreasonable conditions, so long will committees and other unknowing people take us at our own estimate. The cure must come from within. Honourable, upright and dignified action within the profession is the sure and only remedy for this and other evils. The question of the Town Planning Conference is referred to in the Report, and I should only wish to emphasise my great disappointment at the attitude of our Glasgow Corporation in the matter. Probably no subject could be more important to the health, prosperity, and beauty of a town than proper planning, and our Corporation seemed to have some correct notion of this at the beginning, as they had the largest deputation of any city in the kingdom present during the week of the Conference. But when the opportunity was given them of putting before the citizens of Glasgow the finest exhibition of its kind ever brought together in any country, the evidences of the public

spirit of the people and the genius of the architects of the other great cities of the world, they declined to entertain or support the suggestion on the ground of the official opinion that it was not of public interest but only concerned architects and builders. We, of course, have no funds to carry through such an exhibition, so there the matter had to drop, but I have great pleasure in recalling the kindly willingness with which all my requests for the loan of the drawings were met by the various foreign and colonial representatives. The final and perhaps the most important part of our Report to which I wish to refer, what one may call of imperial interest, is that of the R.I.B.A. Licentiate Scheme. Those who were present at Mr. Gibson's address will be conversant with the details which were so ably and fairly put before us. While it also appears to me that we as an Allied Society are in all loyalty bound to support the R.I.B.A., there is much in the Scheme itself to claim our support. I think we must be agreed that some scheme of Registration, which while it cannot secure that the architect so enrolled is an artist, will at least ensure, in time to come, that he has been properly educated for his profession, is not only a desirable thing, but a necessity. And if this Registration Bill is to have a chance of Parliamentary approval, it can only be attained if backed by a majority of the architects of the country. It may be agreed that under the present somewhat easy conditions of admission some undesirables may be admitted. I do not doubt it. My predecessor in this chair, Mr. George Bell, always maintained the opinion that if a man was inclined to stray from the straight path of professional rectitude, we were better to have him within the fold, where we could, if necessary, bridle and halter him, than have him outside as a dangerous free-lance. And I frankly believe that was only in accordance with Mr. Bell's usual shrewd commonsense. I therefore hold that even with its drawbacks this Licentiate Scheme should be supported, and I am pleased to know that Mr. Gibson's visit here will not be fruitless in this respect. Incidentally the Scheme also promises to add to our strength. The latest concession of the R.I.B.A. permits of those members of our Institute, either Fellows or Associates, who are qualified for Licentiateship, being admitted direct upon the recommendation of our Council, without the formality of submitting drawings and the needful proposals of three members of the R.I.B.A. It must be apparent that such a course, through our local Institute, is better for all concerned; for the R.I.B.A., as our local knowledge must ensure better selection of the men applying; for the Glasgow Institute, as increase of numbers means increase of means and power; and for the applicant, as the local connection means local acquaintanceship and mutual help. I am glad to say that already several names have been added to our proposal list.

The Architectural Association.

A smoking concert in aid of the Athletic Club Ground Fund is to be held at the Pillar Hall, Victoria Station Restaurant, on Tuesday, 28th March, at 8 o'clock. It is understood that an exceptionally good programme of musical and sporting items is being arranged, and friends of the Architectural Association are earnestly requested to lend their support to the event. Tickets, 2*s.* 6*d.* each, may be had from Mr. C. G. Boutcher, 40 Great James Street, Bedford Row, W.C., and at the offices of the Association.

MINUTES. IX.

At a Special General Meeting held Monday, 13th March 1911, at 8 p.m.—Mr. Leonard Stokes, *President*, in the Chair; entered in the attendance-book the names of 41 Fellows (including 15 members of the Council) and 31 Associates—the Minutes of the Special and Business Meetings held Monday, 27th February, having been printed in the JOURNAL were taken as read and signed as correct.

The President reminded the Meeting that an explanation of the circumstances which had rendered necessary the step referred to in the Resolution he was about to move had been made at the last Meeting, and that, as reported in the JOURNAL, p. 312, the proposal had been informally discussed and agreed to.

The Resolution as printed in the Notice-Paper having been then put from the Chair, it was

> RESOLVED, unanimously, that the Council be authorised to arrange with the Bankers of the Institute for an overdraft of any sum not exceeding £7,000, with interest at the rate of 4½ per cent. on the amount of the overdraft for the time being; and that the Council be authorised to charge such property of the Institute as they may think fit for the purpose of giving security for the said overdraft.

The Special Meeting then terminated.

At the Tenth General Meeting (Ordinary) held Monday, the 13th March, following the Special General Meeting above minuted—Mr. Leonard Stokes, *President*, in the Chair; entered in the attendance-book the names of 41 Fellows, 31 Associates, 6 Licentiates, and several visitors—the Minutes of the previous Meeting having been confirmed:

The Hon. Secretary announced the decease of Arthur Basil Cottam, *Associate*, elected 1883.

The Hon. Secretary further announced the death owing to an accident of Mr. John Merven Carrère, of New York, and having referred to the eminence of Mr. Carrère as an architect, and to the circumstance that his nomination as Hon. Corresponding Member was to have been proposed at the Council Meeting that afternoon, it was resolved that the regrets of the Institute be entered on the Minutes of the Meeting, and that a message of sympathy and condolence be sent to the relatives of the late architect.

The following Members and Licentiates attending for the first time since their election were formally admitted by the President, viz., James P. Alison, *Fellow*; Lawrence Weaver, F.S.A., *Hon. Associate*; E. O. Banks, Herbert H. Clark, Arthur J. Driver, Thos. McMillan, *Licentiates*.

Mr. J. Alfred Gotch, F.S.A. [*F.*], having read a Paper on THE BURLINGTON-DEVONSHIRE COLLECTION OF DRAWINGS and illustrated the subject by lantern-slides, a discussion ensued, and a vote of thanks was passed to him by acclamation.

The proceedings closed, and the Meeting separated at 10.15 p.m.

Dr. Evans's Paper (pp. 289-95 *ante*).

Errata.—Page 293, 2nd line from foot: *for* "sets" and sealing" *read* "signet rings and seal."—The coloured plate should be numbered fig. 3 instead of fig. 2, and the opening sentence of the last paragraph on p. 294 should read: "A comparison of the plan (fig. 2) with the façade as restored in fig. 3 will give a good idea of the character of the little shrine such as we are able to reconstruct it on the basis of the existing remains and by the light of the miniature fresco."

THE EAST ANGLIAN CATHEDRALS: A STUDY OF ROMANESQUE.

By J. L. Ball, Director of the Birmingham Municipal School of Architecture.

Read before the Manchester Society of Architects.

THE study of ancient architecture,—if I may preface our subject for this evening by a few general remarks,—is a necessary part of the modern architect's training, and on a suitable occasion it would not be difficult to give many reasons why this is so. It is useless to ask whether architecture cannot be produced spontaneously, irrespective of examples, as at the beginning of things, countless centuries ago. The primitive ages are far in the past, we are creatures of the present which moulds and fashions us, the influences of our own time are as the air we breathe. As well expect in advanced life to recover the sentiments of childhood as in this modern world to get back to the artlessness of primæval architecture. Artlessness belongs only to the infancy of art, and if we substitute ignorance for it we may certainly get some sort of originality, but not architecture, not art; art, within historic times, being always a consistent progress from achieved results, in which originality, spontaneity, invention, play the part of agents. And as we cannot return to the unconditioned state of mind of primitive ages, free from conventions yet unformed, so too we cannot keep from our minds the influence of modern conditions,—conditions often retarding and stupefying,—which are continually pressing in upon us on every side. We are all sophisticated, the young man just beginning the study of his art is already prepossessed, the uncomely modern

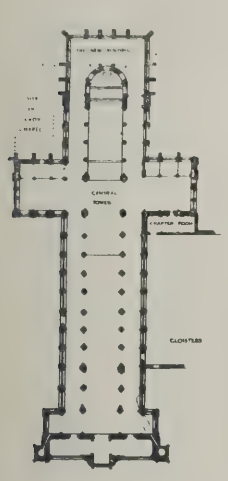
street, the suburban villa, have set a mark on him. From these hostile or unfavourable influences if there is to be any escape it must be by acts of the will, by the deliberate exercise of choice; and how shall we choose unless we are familiar with the better, the best? The secret of art is caught as though by contagion, transmitted from one to another, from one age to another, not indirectly by books or photographs or the like, but directly by its own potent influence. The divine spark can be kindled in us only by personal contact with the noblest works of past ages. No species of affectation is so transparent as the affectation of complete originality.

Yet the study of ancient architecture has not always led to satisfactory results, it has tended sometimes to make men scholarly antiquaries rather than architects, cramping, not developing, the inventive instincts; so that we have had from it much restoration, many reproductions, some wonderful forgeries, much dull mechanical copying, but little real gain to architecture. Well, these ancient works of art, so full of promise to us of inspiration and teaching, may perhaps have been studied in not quite the best way, in not quite the right spirit;—from books and photographs and drawings more than from themselves, looked at in casual and vacant mood rather than with intent and pointed effort of comprehension, sketched more than studied, approached it may be with no better purpose than furtive copying. And the remedy is to be found not in giving up these studies but in improving the method of them; trying to learn from ancient art for its own sake, to experience its high influence, and not going to it merely to find subjects for sketching, or useful models for imitation. We cannot now afford time to consider, even casually, the right way of studying ancient architecture, but two suggestions may be made. First, our studies, to be really fruitful, ought to be comparative; not limited by the fashion of the moment or by personal preferences to this or that phase of architecture, but widely eclectic;—eclectic, that is to say, in the sense of drawing experiences from every source available to us, rejecting none, exalting none too absolutely;—and aiming always at accurate understanding first, and only as that is attained proceeding to analyse and compare. All those faults of pedantry, revivalism, copying, and the like, are very much the result of a prejudiced limitation of one's studies to a special school of architecture, as though that only were orthodox; and the opposite principle, of looking at all architecture alike as possessing some virtue, some valuable property, for us, is likely to prove invigorating and healthful. To perceive accurately in each kind of architecture its special qualities or attributes should be the aim of our studies, and our education will become complete in proportion to the number and variety of such perceptions.

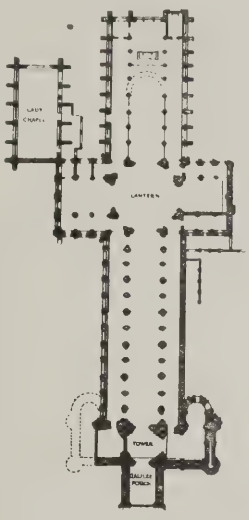
And the second suggestion is that we have too much accustomed ourselves to rely on sketching, and on elaborate measured drawing, too little on exact observation and the trained memory. Drawing is useful, but we abuse it. The best way of studying a work of architecture is to look at it; not in an idle unheeding loitering way, but with all one's faculties of observation keenly alert, the attention quick and penetrating, the senses at full tension, the memory active. Two hours of such study,—and more should not be attempted at a stretch,—is worth whole days spent in measuring some fascinating detail. To train ourselves in the habit of attentive observation, and in the habit of remembering what we see, how great a gain! more valuable to us than many sketch books. What we draw and measure is ours only to copy: what we remember becomes part of ourselves, it passes into the mind, we assimilate it, and make it our own. It may be said that memory is not to be trusted, that it loses much, and often fails us altogether; perhaps if we had trained it from the first we should have less reason for distrust. But the best-trained memory is after all imperfect, it will not retain everything; and so much the better! for its action is selective, it keeps just those things which we are specially fitted to receive and to retain, discarding the rest as lumber. We *ought* only to remember what fits our minds; what we can turn to use, all else is an encumbrance.

And, for a more subtle reason too, imperfect memory is to be preferred to accurate drawing, because where memory fails invention begins, the inventive faculty is summoned to make good the deficiencies of memory; and surely to bring out the inventive power is the principal end of education. With the sketch book before us we blankly copy; with memory only to rely on we find this and that forgotten, and so are forced upon invention. If any student will try this principle of study in his next excursion, drawing little, but training his powers of accurate observation and sight memory, he will not gain the Pugin Scholarship it is true, but he will find in enlarged knowledge and developed faculty a compensation for that misfortune.

The three East Anglian cathedrals of Peterborough, Ely and Norwich, situated at no great distance from each other in the broad fen-land, built at nearly the same time, and



PETERBOROUGH



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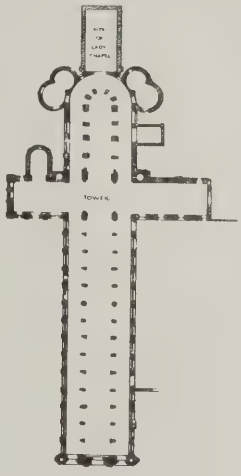

NORWICH

belonging obviously to the same *school*, ought always to be studied together, and as it were, side by side. They form a group of unsurpassed interest, which exhibits the Romanesque art of the twelfth century at one of its highest moments, the three cathedrals mutually illustrating and explaining one another, by the strong likeness between them. So marked is the likeness that features wanting in one member of the group may be surmised from the others, and the full intention of the Romanesque artists, in its majestic unity, may be apprehended by the student. Thus the west front of Ely enables us to form some conjecture of what may possibly have been intended at Norwich and Peterborough; the apsidal choirs of Peterborough and Norwich suggest the lost choir of Ely; while Norwich, alone of the three, has preserved for all later time its original Romanesque lantern and crossing. And though each has its own special charm of style, its inimitable quality, its genius, the three cathedrals gain by being studied together in a group, their general resemblance deepening the interest of their stately aspects, and of their varied fortunes.

Begun in the last years of the eleventh century, and continued during the greater part of the twelfth,—that century of astonishing architectural productiveness,—as the churches of Benedictine monasteries, the three cathedrals were built with the same noble amplitude of plan, their original similarity being now disguised by subsequent enlargements, rebuildings, and alterations. The eastern arms, or presbyteries, were smaller than became usual in the following

centuries, and terminated in the traditional Romanesque apses, which remain, much altered, at Peterborough and Norwich. The transepts project considerably according to the English custom, and the crossings were marked by low lantern towers, covered perhaps with conical or pyramidal roofs of timber and lead. These towers have been rebuilt in later times at Ely and Peterborough; at Norwich the tower remains, the original roof replaced by a lofty spire of stone. Owing to the shortness of the eastern arms the monastic choirs extended under the lantern towers and two or three bays into the naves, and were enclosed with screens. The naves are of great length, and all probably were intended to be terminated at the west end, as those of Ely and Peterborough are, by a western transept, forming internally a sort of wide ante-church or narthex, and externally a vast screen with porches and towers. No Lady-chapel appears in the original churches; one was added at Norwich in the thirteenth century in the usual eastward position, of which nothing remains except the doorway. At Peterborough in the thirteenth century, and at Ely in the fourteenth, Lady-chapels were built eastward of the north transept; that at Peterborough has been utterly destroyed; that at Ely remains, shorn indeed of half its glory, but still a lovely and fascinating work, perhaps the best known and most admired part of the cathedral. Of other additions, and of the innumerable rebuildings and alterations, there is no need on this occasion to speak. Still less need is there to rehearse the sad familiar tale of wanton mutilation and neglect; or of those more recent injuries, only a little short of destruction, wrought by the restorer. Our purpose this evening is not archæology but architecture.

And, however it may be elsewhere, there can be no question that here at least, in these East Anglian cathedrals, the architecture of the twelfth century is supreme, unmatchable. In all three we find many noble works of the succeeding Gothic centuries;—the great portico at Peterborough, the galilee and presbytery at Ely, of the thirteenth century; the lantern tower and Lady-chapel at Ely, the vaulted ceilings at Norwich, of the fourteenth century; choir-chapels and chantries of the fifteenth century;—all works of high imaginative distinction. Wonderful works of architecture! full of the alert life and swarming fancies of those ages of genius. But here, in this austere presence, these lovely things seem to be of but secondary importance, not rivalling but enhancing and supporting the solemn hieratic pre-eminence of the Romanesque. In all strictly *architectonic* qualities, qualities, that is to say, which are neither sculptural nor pictorial, but which belong to architecture essentially, and as its peculiar attributes,—broad and vast design, magnificence of proportion, profound structural expressiveness,—in all such qualities the architecture of the twelfth century is unsurpassed. The severe genius of the Romanesque is satisfied with the play of these primal qualities, and does not depend on any mere accessories. The world of natural life is almost excluded from the work of these artists of the twelfth century, and the forms of their infrequent sculptures seem to reflect little of its beauty. They give us none of the lovely embroidery of flowers and leaves and living things which covers the walls of the Lady-chapel at Ely, but only abstract architectural forms, and cold geometrical patterning; yet their work fills us with a sense of power, of slow-moving elemental force, such as we associate with the larger processes of nature, with the slow growth of the oak, the movement of the tides, the alternation of light and darkness. It is by this feeling of simple primæval energy in it that the work of the Romanesque artists holds us, and its strong vitality needs no reinforcement from the life of nature.

And yet the expression of power in architecture, of sublimity or grandeur, is not always, or for its own sake alone, attractive; it may be arrogant or menacing, or again it may be the accident of mere size and bulk, as often in the grim bare keeps of castles, and in military architecture generally. To fix one's attention solely on the element of power expressed in the architecture of the East Anglian cathedrals would be to miss its true charm,—the blending in it of refinement with strength, the tranquil grace of those massive forms

which might so easily have been grotesque and uncouth, the decorum, the sedate maturity of style. The artists of the twelfth century were not the men to be satisfied with mere heaviness, mere material, they were deliberate and expert artists, confident in their art, working on a great tradition, seekers after an ideal of severe beauty. Across the ascetic intensity of their mood comes at times something of that light fancifulness which we more often associate with the youth of art than with its serious prime; seen here and there in these cathedrals in strange galleries and intricate arcadings and cunning interlacements, in the spiral pillars at Norwich, in such delightful places as the *Chapel of S. Catharine* at Ely; seen too everywhere throughout in a certain grace of line, a massive refinement in the proportions.

CHOIR, PETERBOROUGH CATHEDRAL, LOOKING EAST.

"Art," says Pater, "addresses not pure sense, still less the pure intellect, but the imaginative reason through the senses." So in its primary aspect architecture is an appeal to the aesthetic sense,—a form defined against the sky, a group of forms defined one against another, a pattern curiously woven of lines and surfaces, of spaces and reliefs, of projection and recession, of light upon dark and dark upon light. The special sensuous charm of architecture is in this deft arrangement of material, in the progressive defining of form, the elucidation of it from mere shapeless mass; the forms themselves first delighting the sense, and in that way only becoming the medium of whatever more intimate expression may lie in the designer's mood. This definition, this arranging, whether of masses or of particulars, is in fact nothing else than proportion,—the making what is naturally formless into something ordered and rhythmic, as though all the chaotic and discordant elements of it had been

caught up into one perfect pattern or image. And as proportional achievement is in the nature of acquired or increased faculty, so it tends always to harden into a system, and to become the formal tradition of a school; proportion thus being in reality almost equivalent to *style* in architecture, whether by style we discriminate between one school and another, or between different examples of the same school; the strictly essential attributes of style lying much more in proportion than in ornamental details. Here in East Anglia, in these Romanesque cathedrals, whose architecture is so robustly self-reliant, so sparing of ornament, so independent of merely decorative accessories, we feel, as we seldom can with equal assurance, how little architecture need rely on wealth of sculpture or costliness of material for its most enduring beauty, how much on proportion. The student will find his interest in noting and comparing these proportions, if perchance he may penetrate a little into their secret;—the delicate and subtle difference, for example, in the handling of elements so nearly the same which gives to each of the three naves its own recognisable physiognomy, its peculiar cast of expression; or again, that general proportional system which distinguishes the cathedrals as a group, which marks too their affinity with such churches as *Winchester*, *l'Abbaye aux Hommes*, and *Cérisy*, and through these with a widely extended family of Romanesque. And he will note too with what mastery, in the architecture of the twelfth century, the sense of proportion is carried into all the subordinate parts of the work, so that nothing in it seems superfluous, or misplaced, or isolated; but all lines, contours, patterns even, are made essential, and contributory to the expression of structure, as though they were indispensable to the creative scheme. The whole design is thus charged with meaning, and wrought into a noble unity and simplicity, becoming vital, nervous, as the work of true artists always is, impressing us everywhere with a delightful sense of "organic fitness,"—to borrow Mr. Lethaby's fine phrase,—of purpose decisively achieved.

All the various interests of proportion concentrate in the great galleries, the division of the internal height into three nearly equal parts; a notable characteristic of this group of cathedrals, which from the first strikes the imagination, and remains always fixed in the memory. It is well known of course that the Romanesque architects allowed a wide freedom in the design of the triforium stage, making it sometimes as small as possible, sometimes larger, and so through all varieties of proportion until in these churches and some others it becomes equal, or nearly equal, in height and importance, to the aisle arcade. This repetition of *motive*, this representation of the same forms with varied incidents at different heights, produces a wonderfully delicate and harmonious effect, arch rising above arch in long undulations, the light penetrating at three several altitudes. Familiar to us as the East Anglian cathedrals may be, we look up always with the same surprise to those high unfenced galleries, as though they were set apart for choirs of angelic visitants, bending over in winged security,—as in some quaint early *Adoration* or *Gloria*,—desiring to look into the mystery of the Faith.

The exterior architecture of Peterborough, Ely, and Norwich has the same distinction, but not quite the same attractive grace and charm, as the interior; it suffers much more from incompleteness, and from the constant re-touchings and alterations of later times. And even if we could see it complete, according to the original intention, we should probably find it somewhat cold and stern of countenance, as though the feeling which prompted the bare exteriors of the early Christian basilicas of Rome still lingered in the twelfth century. The difficulty which Wren experienced in S. Paul's, of binding together interior and exterior in organic unity, is not peculiar to him or to that Renaissance architecture of his, the same difficulty confronted the Romanesque architects, and confronts the architects of every age. To make the outward congruous with the inward, according to the logic of art, to reconcile the logic of art to the logic of facts, so that both aspects, outward and inward, shall be equally

true, equally significant of structural idea; this is the central problem of all great architecture, seldom quite solved, demanding indeed for full accomplishment a certain rare fortune which was denied to the East Anglian architects of the twelfth century. Nevertheless, when seen as a whole at a little distance, as was perhaps intended, these great Romanesque minsters must have given an aspect of grand and still solemnity which now we can catch only imperfect glimpses of, in chance moments, or under some strange effect of light. Ely, finished as we may even now conceive it, secluded in its precinct, and unmarred by the changes of six hundred years, must surely have been a fair vision, its great outlines rising majestically

ELY CATHEDRAL, WEST FRONT.

above the level fen-land, the sunlight shining on its long walls and arcaded towers. But it is in the design of the west fronts that the Romanesque genius, usually so reticent, so indifferent to the world, breaks out into a full triumphal strain. All the resources of mediæval art were concentrated on the west fronts, both in the Romanesque period and in the Gothic, insomuch that from sheer costliness many of them were never finished, or finished only in a makeshift sort of way. Of the three East Anglian cathedrals the west front of

Norwich was not completed in the twelfth century, and only scanty fragments are now incorporated in the fifteenth century front, a poor work spoilt by the restorers; at Peterborough the celebrated west front is a Romanesque design built in the new Gothic manner of the thirteenth century; at Ely alone we see the actual west front of the twelfth century artists, incomplete it is true, and much altered, but complete enough to fill us with infinite regret for its incompleteness. To watch this front illuminated by the evening light as one sits on the green before the episcopal palace,—what a lesson in grand form, and in the expression of structure! Judged by architectonic qualities alone, not even the marble façades of Italy can be matched with this grey *torso*.

The mention of Peterborough calls up at once the memory of its famous west front, a work of the Gothic thirteenth century, but with Romanesque elements in it too, felt rather than actually seen; felt most perhaps in the great sombre arches, in the narrower central arch, in the stages of arcading, in the clustered piers taking the place of Gothic buttresses;—as though some twelfth century model, preserved in the archives of the monastery, had imposed a certain constraint. The Romanesque influence is there, yet in spite of it we feel, as we feel also in the galilee and presbytery of Ely, how immense the architectural revolution of the thirteenth century really was, the essential difference between Romanesque and Gothic lying not so much in this or that detail, the Arabian arch or the Roman, as in a profound change of spirit. The pointed arch whether a variation or a structural expedient had long been known, and to fix our attention only on developments of detail is to lose sight of those distinctions in art which are real, trenchant, and abiding; details being always carried forward, in epochs of change, as so much common property. The new architecture was much more than a transition from one set of forms to another, it was the inauguration of a new era, bringing with it an air of youth and of spring mornings, a wonderful brightness and sharpness as of the sunshine and keen winds of spring, a fresh delight in all forms of beautiful life, stems of plants and sprouting leaves and buds, human faces, and quick vivid creatures delicately grotesque. Perhaps even the Renaissance was not a more sudden or more serious innovation, for indeed something of the spirit of the Renaissance is already here in the thirteenth century, manifesting itself by a joy in life and all created things and in the beauty of the world.

Of this new art the west front of Peterborough is a fine scenic example, made singular perhaps by Romanesque influences, and by an enigmatical, half-freakish, character in it; so that it belongs to a select class of mediæval works which, owing to something exceptional in their motive, stand a little apart from the main tradition, and form no school; yet which, by their singularity, and by an almost personal note in them, are the more attractive. For a true appreciation of this unique work and its changeful beauty one must see it under many varieties of circumstance;—with the cloud shadows chasing one another across it; in the flush of stormy sunsets; by twilight, when the dim vast porches seem haunted by all the weird imaginations of the middle ages. Or again what a vision of it that is from the opposite side of the market-place! the crowd of spires and gables rising, delicate and dream-like, high above the houses of the town.

Let us pause a little on these west fronts to consider an important principle which they illustrate, the principle of frontal design, what Professor Loewy calls the "Law of Frontality." It is the mistake of much art criticism to assume that architecture can be designed in angular perspective, a mistake that comes from confusing design with drawing,—the mental image with the graphic representation of it,—as though they were the same thing; whereas in all true design, whether of a brooch or of a cathedral, the image must first be formed and realised,—*visualised*, so to speak,—in the mind before it can be drawn, drawing without previous mental realisation being either empty and meaningless, or mere copying. And effects of angular perspective in architecture are to be regarded as accidental, valuable perhaps to the sketcher and

the seeker after the picturesque but not to the architect; architecture being always best apprehended, as it must have been imagined, when seen in its broadest and most comprehensive aspect, in full front. The law of design in architecture illustrated by these west fronts, illustrated more or less by every front of a mediæval building,—the governing law,—is *centrality*, not the oblique view counting but the front view, each face of a building being mentally conceived in its full-fronted aspect, irrespective of any other; the mediæval artists caring not at all

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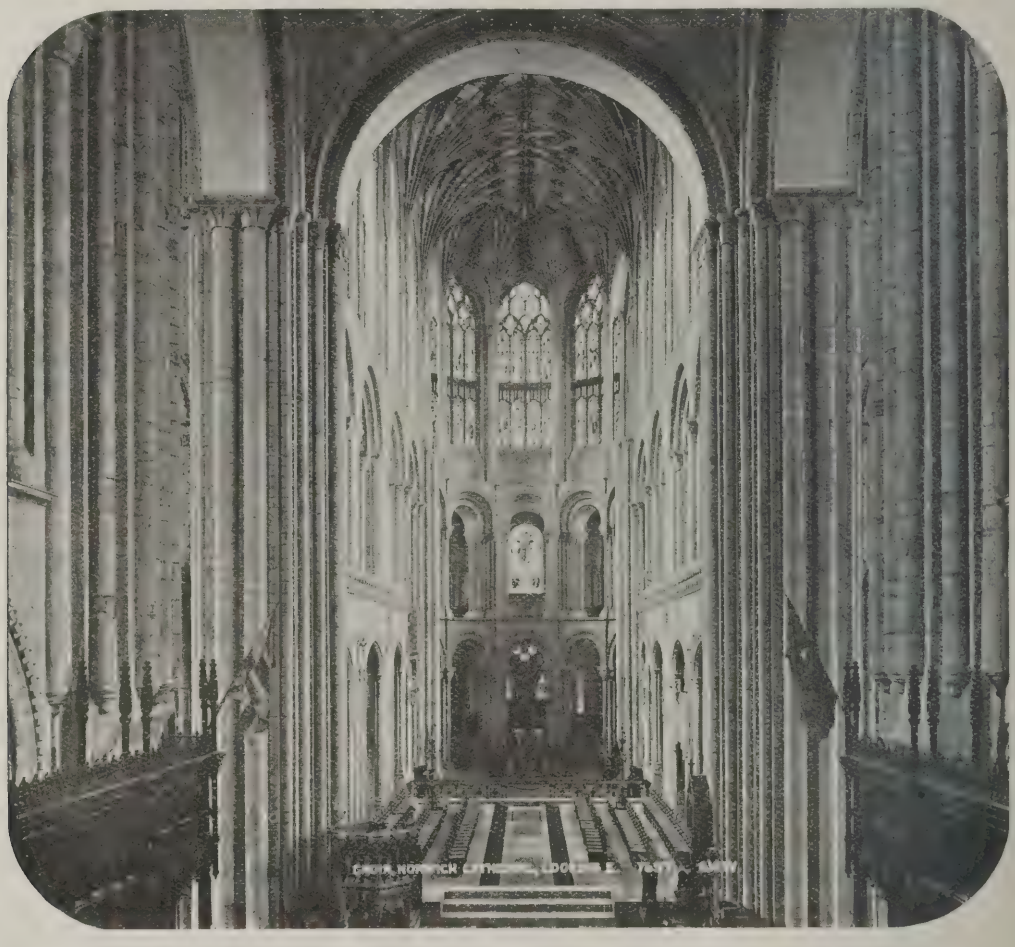
about angular effects, or the difficulties of transition from one front to another. Angular effects were not intended to be *seen*; so that while the building was undoubtedly conceived as a whole in relation to outline and mass, yet in detail each front or facet of it presented itself independent and entire in the artist's mind, and was intended to be seen exclusively or principally in that way, as a noble screen or background to the drama of life, the approaches and subordinate buildings being arranged to emphasize the separation of front from front. And so in architecture, and perhaps in Romanesque and Gothic architecture most distinctly, we trace the same law which Julius Lange has laid down for all primitive sculpture, and which Loewy has analysed so critically in his *Nature in Greek Art*,—the law of Frontality,—the law of mind

by virtue of which any object is necessarily conceived in one front aspect only. "We cannot," says Loewy, "imagine simultaneously various images, and the various views of one object are really various images;"—secondary aspects of the same image being obtained by special and subsequent acts of the imagination. For the full exposition of the law of Frontality,—so simple yet so illuminating!—the student is referred to Professor Loewy's book just mentioned. It is enough for our present purpose to remark that architecture conforms to the same law of artistic production as the other arts. And not only so, it has also its special corollary to the law of Frontality, what may be called the law of Approach, which again finds some



CHOIR, NORWICH CATHEDRAL, LOOKING EAST

of its most striking illustrations in Romanesque and Gothic architecture. We note the special elaboration of the west fronts, their costliness and splendour, and in some cases,—the great city cathedrals of France for instance,—a similar elaboration of the transept fronts, where these also are intended for approaches; the mediæval artist delighting thus to concentrate his skill, as every artist does, upon the critical point, to place his art where it will produce a sudden and sure effect, and wisely neglecting less conspicuous aspects for the sake of an impressive magnificence in this. Here then in the law of Frontality, and in its complement the law of Approach, we catch a glimpse of the method of Romanesque and later Gothic design. First,

a stately outline seen from afar in the unreality of distance; then, as the pilgrims to the holy House drew nearer, a vast mysterious presence, half-seen or secluded, caught sight of only in casual moments, in the windings of narrow streets; until, all at once, at a sudden turning, the great west front stood before them, majestic with towers and sacred imagery.

Suppose a modern student of architecture were to bring up a design somewhat resembling the west front of Ely, covered all over with a net-work of arcades,—he would probably be reproved for disregarding simplicity, and exhorted to fix his mind on the broad effect of plain wall surface. The great artists of the twelfth century were troubled with no such scruple. Penetrated by a native instinct of art, and inheriting a grand tradition, they knew that simplicity is not the same thing as bareness, is indeed quite compatible with elaboration, even with intricacy. And they were not interested in wall-building for its own sake,—perhaps were not specially good builders of walls,—taking little pleasure in the monotony of grey stone which in East Anglia could be relieved by no chequer-work of colour or charm of texture. The Romanesque architects here, as in all places, and with any materials, were in a supreme sense arch-builders, possessing by tradition an unrivalled knowledge, a deep intimate apprehension, of the qualities of the semi-circular arch, delighting in arched construction and in the artistic expression of it. And it is characteristic of them that they use the arch not merely as an expedient to bridge over a space, but for its own beauty's sake, for purposes which are wholly the purposes of art; so that in their greatest works, works in which their art attains to full achievement, we are given the impression not of wall-building with arches formed here and there, but of a structure entirely of arches and their supports, one above another in long succession,—wall-surfaces figuring in the design principally as a background or filling to the arcaded construction. This sentiment of arch-building is deeply rooted, as every one knows, in all Romanesque art; the conception of architecture as arcaded, the delight in the structural expression of the arch, and in its æsthetic beauty, being distinctive of it always, from the point where it emerges from the early Roman basilicas. In these,—in S. Clemente, S. Lorenzo, Sta. Agnese,—the arch is for the most part timid and inexpressive, used either as a structural necessity, or in the Roman way, as an accessory to the column and architrave; and the long history of the Romanesque may be

ELY: NORTH SIDE OF NAVE.

summed up as the gradual rise of the arch to supreme place in architecture, with a consequent decline of the column's principality.

So it is by their unique faculty for arch-building, for interpreting the qualities of arched construction, that the Romanesque artists of the twelfth century affect us with a special impression of pleasure. Here, in East Anglia, the arch is always the semi-circle, the old Roman form; which in the sequence of arcading has a peculiar æsthetic value, delightful always in its abstract grace of line, its simplicity of proportion, in the unbroken unity of its ascending and descending curves, in its susceptibility to fine gradation of light and shadow. But the arch is nothing apart from its supports,—arch-building being always a problem of stability, of equilibrium. Long experience had made the properties of the semi-circular arch, the incidence of its lateral pressure, familiar to the twelfth-century builders, and they solved the problem of stability by sheer massiveness of supports, without the aid of buttresses, avoiding in this way any interference with the broad light which they loved to see play over their rippling arcades. The pilasters and clustered piers and string courses, so marked in Romanesque work always, have no constructive importance, but their æsthetic value is immense, a design of arches always needing definite vertical and horizontal lines, a strong rectangular framework, to give the emphasis of stability. And we may note too in the East Anglian cathedrals how the architectural value of the arch, its importance and artistic expressiveness, are enhanced by the system of recessing, by forming it in several distinct *orders*, concentrically, one within another; a fine invention of the Romanesque period, bringing to the severe Roman model a new beauty, complex and variable. In his excellent *Gothic Architecture in England* Mr. Bond will have it that this recessing of the orders of the arch,—of so great æsthetic value to Romanesque,—had its origin in a "bit of engineering," in the expediency of economising the wooden centering. His remarks on the subject are valuable and worthy of the student's attention. No doubt there were difficulties of the kind suggested, but surely Mr. Bond in this instance attaches an exaggerated importance to them. If an arch-centering could be made for a thickness of two feet,—and this is admitted,—could it not have been made for a thickness of six feet, supposing such a thickness to have been really wished? We do not often find the mediæval builders willing to spoil work for small economies, and since they built arches in recessed orders we may be certain that they preferred them so. Before and probably long after the Norman conquest the English were wood-builders, and to men accustomed to build houses, churches, ships, carriages, of wood, the centering for the great arches of Peterborough must have been no very formidable task. It is certainly true, as Mr. Bond says, that the circular saw and the use of mechanical power were unknown in the twelfth century, but the two-handed saw is surely an implement of great antiquity. Is it likely that a wealthy society, as the Benedictine order was, would begin the works of an important church without providing a saw-pit and sawyers?

I have said that it is as arch-builders, as possessing the secret of architectural expression by means of arched construction, that the Romanesque architects have a special interest for us. Can we discover in what their peculiar excellence consists, detect the quality in their work which marks it off from other arched construction? The semi-circular arch is common enough, think for a moment of the modern use of it by railway engineers,—Brunel and the like,—often on a grand scale and with very noble effect. And then, with work of this sort in your mind, look again attentively at the great arcades of the East Anglian cathedrals, noting the variableness, the pliancy, the spontaneous and unstudied changefulness of the arches, no two of them following precisely the same curve, but all as though modified and guided by the action of some secret law. It is the quality thus given to it that distinguishes Romanesque work from other arched construction,—the sense of *flexibility*, of the elasticity of structure. Rigidity and flexibility, either may be expressed in architecture, different schools indicating these

opposite qualities in different degrees, according to the sentiment of their art. And with the artist's unconcern for mere exactness, an unconcern as far removed as possible from want of skill, the Romanesque architects give to their work the expression of flexibility by a naïve confidence in the facts of arched construction, allowing the actual flexibility of building,—which every builder knows, but which modern builders always strive to conceal,—allowing this natural, inevitable, elasticity to have its way, to appear openly and without reserve in the work.

To understand how this might be we must remember the conditions under which Romanesque architecture was done. So many great churches were being projected that it became necessary quite early in the period to break away from the traditional basilican type of plan, and to devise some other which would permit churches to be built a part at a time, bit by bit, as opportunity served. And so for this reason among others the plan of building in bays, or compartments, came to be adopted, each bay a complete cell, structurally independent and self-supporting, one cell after another being added at intervals until the plan was complete. The East Anglian cathedrals were building during the greater part of the twelfth century, not as entire structures, but one or two bays being finished at a time. In the present age for a cathedral such as Ely the builders would need to provide centering for all the arches simultaneously; in the twelfth century,—and it is here that Mr. Bond's argument is so valuable,—one well-made piece of centering might very easily serve for whole arcades. Think for a moment of the masons at work on a bay of Ely cathedral in the middle of the century: the time for building in the year is short, they are eager to be done, one arch has been built up on the centering, the spandrils are filled, and experience has taught the builders that now the centering may safely be removed and set up again for the arch opposite or the arch above. Romanesque masonry is of rather small stones, with wide joints of mortar, and the arches are not bonded as the later Gothic arches are, each subdivision being an independent unit, strong enough for its own work, the idea of simple constructors always being to avoid complications. The walls are of a coarse concrete of lime and rubble between stone casings, the Roman tradition of building, which lasted to the end of the Romanesque period. And we ought not to forget that mortar in ancient times had qualities quite different from the qualities of modern mortar. In the present day mortar is usually made of hydraulic lime with a larger amount of sand, its virtues being hardness, incompressibility, and quick setting. Ancient mortar was made of common stone lime with equal sand, and possibly with a small quantity of some kind of grease in it, its properties being plasticity, adhesiveness, elasticity, and extremely slow setting. In modern building the centering is seldom removed until some time after the whole weight has been placed on the arches, yet even these arches, built with cement or quick setting mortar and bonded, nearly always show some effect of compression. Assuming then that in the twelfth century it was customary to remove the centering from arches at the earliest moment, and duly considering the points just indicated, can we not understand that the arches would naturally, inevitably, and without injury to the fabric, assume just the variety of form which we actually find in them?

Similar reflections on the circumstances of ancient building may afford some clue to other puzzling irregularities in it besides this inequality of the arches, irregularities which are not explained by time or accident, subsidence of foundations, and the like causes. The builders of the twelfth century were no bunglers, their work is studied, well-contrived, masterly, the free handling of dexterous craftsmen; and the inaccuracies we see in it are not,—as so often in modern building,—mere stupid intolerable blunders, but an essential part of its charm, the temper of the artist in it, impatient of dull accuracy and the tedium of mechanical repetition. Unconscious of art-theories, and guided only by an intense sensibility to beauty of form, the Romanesque artists achieved, through this freedom of handling, precisely the same result

which in Greek architecture was reached by an elaborate system of calculated refinements, the softening away of the hard realism, the prosaic actuality, of geometrical form, which in inferior architecture tends always to give the effect of a built diagram or piece of solid geometry. And this idealising of harsh form, so vital to architecture, is the work here of temperament, not of conscious purpose; of temperament aided by the conditions of the age. As we study the East Anglian cathedrals we feel more and more the conviction that all this was done quickly, in hot haste, in a sort of fury or noble impatience,—the impatience which every true craftsman knows to have done with his work, to realise it and put it away from him. These rounds and hollows, these chevrons and lozenges, were smitten out of the stone by men who had in them something of Michelangelo's hot temper. It is a common mistake to attribute the excellence of mediæval building to its slow progress, as though the work itself had been done slowly; whereas no first-rate hand-work is ever done slowly but always with swift decision in the actual doing of it. These great minsters after a hundred years were still unfinished, but there were long intervals when building was suspended by lack of money, the only economy known to mediæval builders being not to build when they could no longer build well. There were periods of total inactivity, and we must remember too the great importance of agriculture in the twelfth century, most of those engaged in the building being also tenants of the monastery, and much occupied with their farms. If we add to all this the familiar delays of climate and difficulties of transport we shall come to the conclusion that the time for building in any one year was short, and that the work must have been done quickly if it was to be done at all. Slowly these great monuments of religion grew towards perfection, yet swiftly in the actual workmanship; and the fire of the workers' temper still glows in their stones.

One often hears the Romanesque in England spoken of as "Norman," and certainly the East Anglian cathedrals, works of Norman architects, Norman master-masons, and closely resembling many churches in Normandy, may be called Norman in a local political sense. But all English architecture in the twelfth century was not exclusively Norman, the buildings of the Cistercian monks, to take one example, show the influence of southern types. These local schools of Romanesque,—Norman, Burgundian, Rhenish, and the like,—possess indeed a many-sided interest for us in their diversities, in the differences due to race, climate, local material, local feeling, which we find in them. But such differences are after all superficial, and what is most important for us to note just now is the constitutional unity,—unity of idea, of spirit,—which is maintained through all these local variations; for it is this steadfast unity of sentiment amid outward changes which gives to Romanesque art the character peculiarly distinctive of it,—its catholicity. The epithet "Christian" as opposed to "Pagan" art, which Pugin claimed for Gothic, is much more appropriate to Romanesque. Both in origin and in its main purpose it is religious art, the symbol during eight hundred years of the Catholic faith, identified with the Western Church as closely as Byzantine art is identified with the Eastern. The mission of Romanesque architecture, the unique purpose which gives consistency to all its varieties and experiments, was to find for the Catholic Church its true *form*, to give a fitting embodiment of the great ideal. When, after the edicts of Constantine, the Christian society at Rome began to build churches, instinct and an austere contempt forbade the imitation of heathen temples, and no authoritative model existed of what the Christian church should be. In those early Roman churches, named from a resemblance to the secular basilicas, we perceive even now a discontent, a distaste of the splendours of an architecture associated with the monstrous sins of the ancient world. The new faith was felt not as a change from one religion to another but as something profoundly different and new,—a "new life,"—which needed to find expression in new forms of art, in a new architecture, solemn, undefiled, and separate. And working through many centuries more or less consciously to this end Romanesque art achieved it, and fixed for all succeeding ages the outward type of the Christian

Church. A breath of life passed over those antique forms, stiff with the decrepitude of a thousand years.

And so, from working on the Church's external habit or vesture, Romanesque art comes also to reflect something of its spirit. It is possible that the Divine Revelation may include within it many minor revelations, such as the power and dignity of the Church, and it may very well be that religious art is one of these minor revelations. Romanesque architecture is essentially religious art, not alone by reason of ecclesiastical purpose, of dedication to the service of religion, but because it expresses, so far as architecture can, some aspects of the religious life;—its serenity, its exaltation, its changeless sabbath, perhaps too its weariness. There is always about the Romanesque an air of mystic isolation, an aloofness from the common ways of life; we do not look to see reflected in it the secular conflict; its mood is tranquil, contemplative, the untroubled peace of those who have renounced the world.

Here in East Anglia it is very evident that we have travelled far from those early basilicas of Rome, yet the architecture is still Roman, Romance, Romanesque; and the monks of Peterborough could believe that their church was following the model of that which had been raised centuries before over the place of S. Peter's martyrdom. In the cathedrals of the twelfth century we see Romanesque architecture at the moment of its fullest achievement, in its vigorous prime, in the maturity of its genius; and it was thus, knowing no decadence, that it suddenly passed. These great works of a world wholly unlike ours appeal perennially to the heart and the imagination, and they have many lessons for us. Perhaps the most valuable lesson we can learn from them is the impossibility of reproducing them.

NORWICH CATHEDRAL: EAST END. 1816.
From Britton's *Cathedral Antiquities.*

JOHN THORPE AND ROLAND STICKLES, AND ARCHITECTURAL DRAWINGS OF THEIR TIMES.

By Harry Sirr [*F.*].

"Kirby hall wherof I laid ye first stone ao 1570."

THE oft-repeated inscription from a drawing in the Soane Collection is not very illuminating even read in conjunction with other notes on some of the plans, but it became a text upon which, in a sense, a conjectural history of John Thorpe's skill in architecture was founded in bygone years. All the work attributed to him is now not seriously believed to have had its origin in plans which seemed to have come from his brain and to support the whole story. The extreme is reached when the entire story is sometimes dismissed as a fable which Walpole perhaps originated when the drawings came as novelties before him. The memorandum surely needs accounting for; with the circumstances under which the first stone was laid unrecorded it is an uncertain guide to Thorpe's age and employment. The earliest date of a drawing is 1560, the latest 1621, excepting those of Henry VII.'s Chapel and the Somerset Place of the day (1546–49). Extracts that have been cited instancing John Thorpe's employment in land agent's and surveyor's work connected with Royal property in the reigns of Elizabeth and James I. date from 1590 to 1611, but all the plans are not thereby accounted for. Another extract may be quoted in full from the *Architectural Dictionary* "of importance as conveying the fact of father and son and their place of residence. 'Coat of arms, azure a star or between three crescents argent, belonged to the abbot of Tame whose name was Thorpe, and now borne of master John Thorpe of the parish of Saint Martins in the field, my especiall friend, and excellent geometrician and surveiour, whom the rather I remember, because he is not only learned and ingenuous himselfe, but a furtherer and favorer of all excellency whatsoever, of whom our age findeth too few;—and lastly, the aforenamed master John Thorpe his sonne, to whom I can in words never bee sufficiently thankefull'; Peacham, *The Gentleman's Exercise, &c.*, 8vo. (1st edit., 1612), 1634, p. 162."

This brief restatement of what has hitherto been reported or known leaves much to be discovered, and the need of further information is apparent from interesting discussions reported in the Journal.*

It seemed to me, therefore, that it might not be amiss if a fresh start were made at investigation, with full acknowledgment of previous research and acceptance of identity held as established by the references hitherto cited. Endeavouring to establish the earliest mention of the Thorpes' location in the metropolis it appeared important to know positively whether—so early as 1612, Peacham in his first edition testified—they were living in St. Martin's-in-the-Fields (strictly speaking outside London), or, whether the testimony originated in the 1634 edition of Peacham's book.

I have had the good fortune to come across evidence independent of Peacham establishing residence in St. Martin's-in-the-Fields twenty years before the early edition mentioned in the *Dictionary*. An entry in the Harleian Society volume for 1887 furnishes particulars of a marriage licence issued in the London diocese, 17th August 1592, the parties being John Thorpe, of St. Martin's-in-the-Fields, Middlesex, gentleman, and Rebecca Greene, also of St. Martin's-in-the-Fields, spinster, daughter of Simon Greene of the same parish, woodmonger. It was an easy matter to turn to another publication of the Society, *The Registers of St. Martin's-in-the-Fields*, and here the marriage of "Joannes Thorpe and Rebecca Greene" is recorded under date of 15th September 1592, the earliest entry of several under the surname. Some of children, under baptisms and burials, refer almost certainly to issue of the marriage. The burial of Rebecca Thorpe under date 7th April 1617 probably refers to the wife. Besides these there is the burial entry of "Joh'nes Thropes" in 1618 (May 23) discovered by Mr. Wyatt Papworth, who cited evidence in confirmation of a suspicion that Thorpe and Thropes were the same name, but without further comment.† Should it prove relevant to either of the Thorpes under consideration, it might be concluded that the younger survived, thus possibly accounting for the latest dated plan of 1621.

The quotation from Peacham's *Gentleman's Exercise*, 1634, accords with the text in another book entitled *Graphice*, 1612. The latter is an enlarged edition of *The Art of Drawing*, also by Peacham, published in 1606 without mention of Thorpe's name. It is noticeable that before Thorpe's son is referred to, Peacham (1612) particularly acknowledges obligations to other prominent parishioners, instancing Master

* Journal R.I.B.A., 3rd Series, Vol. I. pp. 463, 507, 522; *Ibid.* Vol. XVI. p. 67.

† Transactions R.I.B.A., Vol. VI. N.S. p. 113.

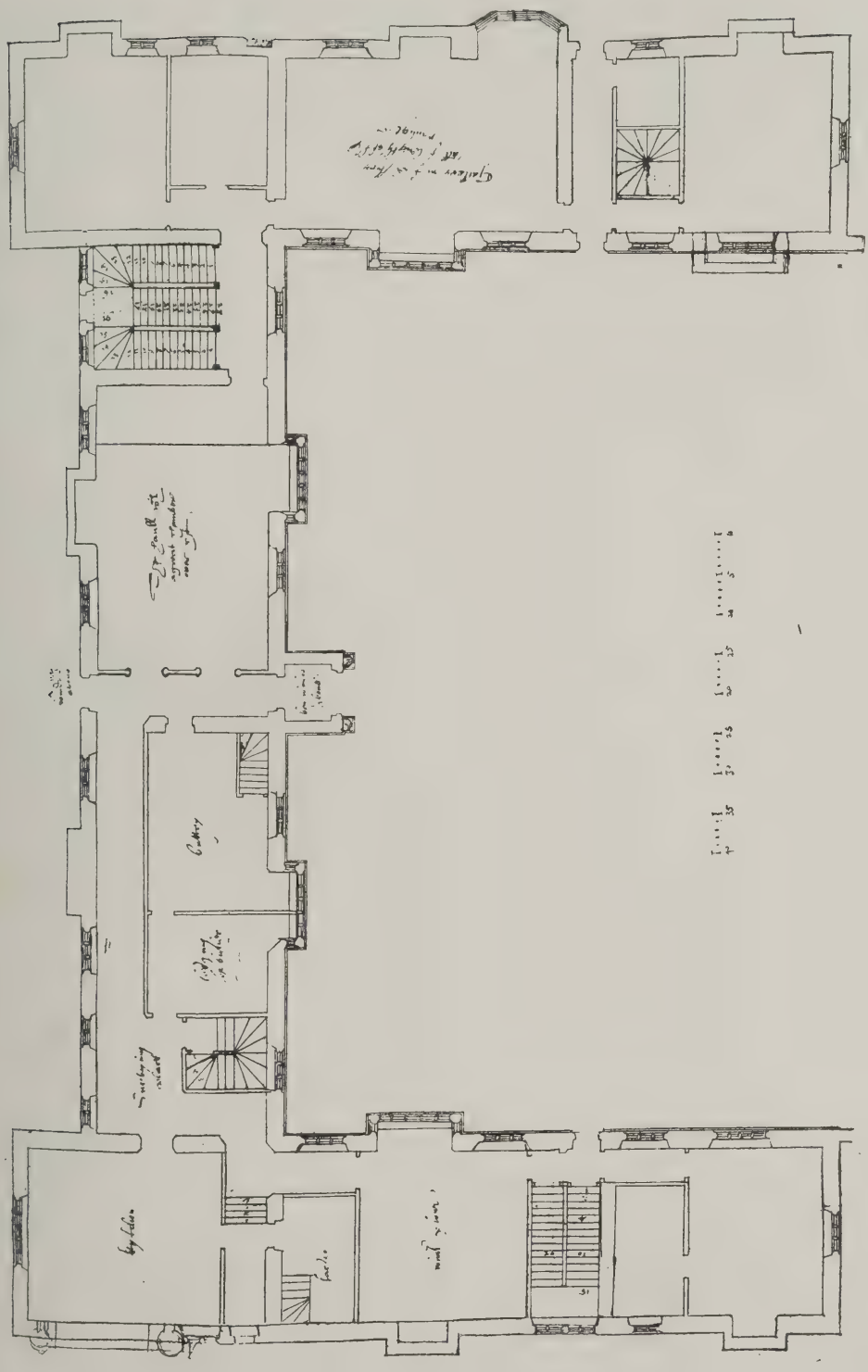


FIG. 1.—THORPE'S PLAN OF HOUSE FORSIR HENRY NEVILLE.
(From the collection of Thorpe's Drawings in the Soane Museum.)

Simon Greene, evidently the father-in-law described in the marriage entry, who according to Peacham (1612) was "Purveyor of His Majesty's Stable." Peacham's own prefatory matter is followed on a fresh page by Latin verses subscribed in larger type "Joannes Thorpe," consequently his reference to a correction required "in my Latine verses at the beginning" when introducing a few errata at the close of the book is somewhat puzzling.*

As fresh matter intervenes between mention of father and son and there is no allusion to the occupation or employment of the latter, he may have been still a student and in some degree one of Peacham's pupils. It is a reasonable conclusion that all the drawings and work attributed to John Thorpe, the surveyor and geometrician, on account of known dates could not have been the work of one man: it is mere conjecture that the son was also concerned. Most likely he followed his father's calling, and this has been somewhat taken for granted. If Peacham taught him he had an accomplished tutor (who after taking his degree had been sometime a schoolmaster), mathematician, student of heraldry, musical composer, foreign traveller, and author of many works. He could also paint, draw, and engrave portraits and landscape.

The registers do not help with a clue to the age of either Thorpe; there is only one baptism (28th January 1601) of a *John* Thorpe recorded, and a burial entry (26th March 1602) possibly disposes of this John; the marriage entry might refer to either father or son. And so, presumably, might Sir Henry Neville's recommendation of the Clerk of Her Majesty's Works in the letter from Paris in 1600, of which I furnished the *précis*.† There are drawings of Paris buildings dated 1600, as well as a plan of a house for Sir Henry Neville, in the collection of Thorpe's drawings (fig. 1). The collection also includes the well-known plan of

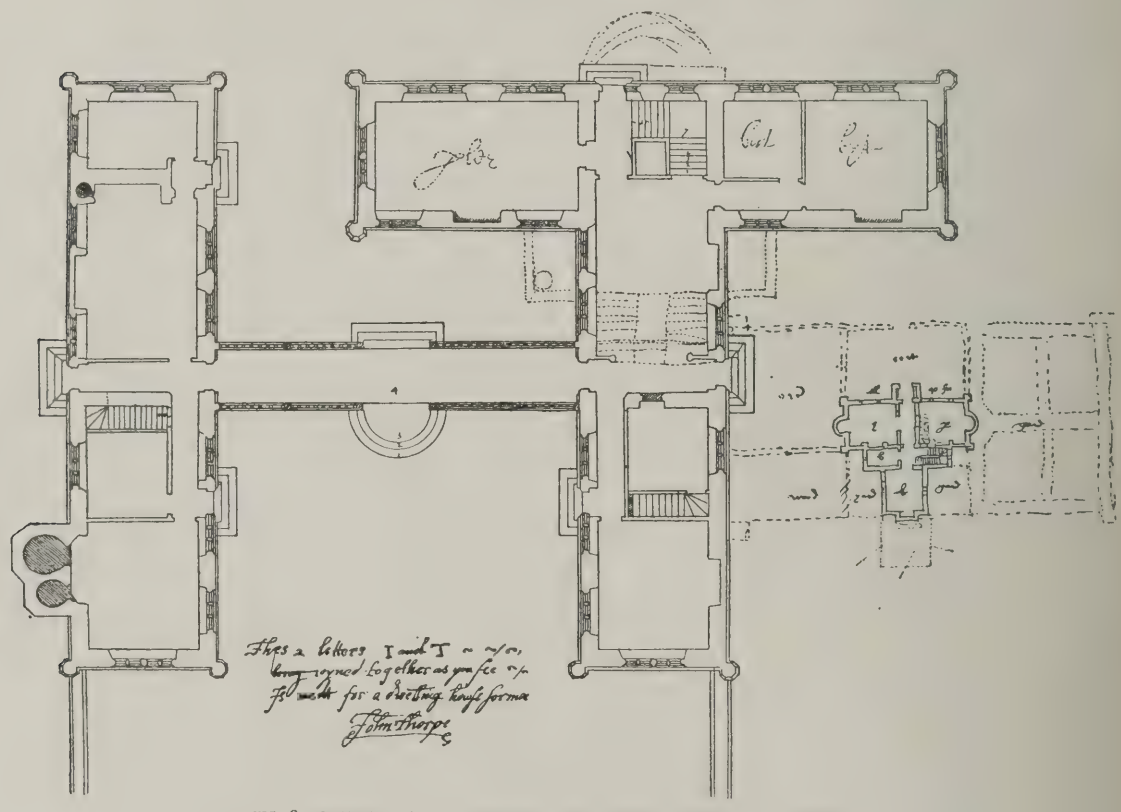


FIG. 2.—GROUND PLAN OF HOUSE FOR JOHN THORPE, FORMING THE LETTERS I T.

[The dotted lines are drawn in pencil on the original.]

Reproduced from *Architecture of the Renaissance in England*. [J. Alfred Gotch, F.S.A.]

* *The Compleat Gentleman*, 1622 (Peacham), may also be cited as giving similar information to that quoted in the *Architectural Dictionary*. However, the references *after* 1612 are not conclusive evidence that *both* Thorpes were living *subsequent* to that date. The text was redistributed to suit pagination in subsequent works, but we cannot be quite sure that it was re-edited.

† JOURNAL R.I.B.A., 21st January 1911, p. 207.

a house "John Thorpe" meant for himself, certainly whimsical, but, it may be concluded, his own invention (fig. 2). A careful copy amongst the drawings and papers left to the British Museum by William Burges, A.R.A., is an evidence of a very learned architect's interest. Presupposing that it was actually built, the official catalogue entry also implies (upon what authority does not appear) that the house was probably in Wiltshire. If so, it would suggest retirement from town. Instances from authentic Wiltshire records of the mere name would be useless unless it can be identified.

The Grant of 36 Henry VIII., 1545, previously instanced could scarcely refer to the elder Thorpe as I suggested. To hold tenure as indicated he must have been at least twenty-one years old; thus in 1612 his age would have been at least eighty-eight, and likely to have been acknowledged by Peacham. The Grant, however, might prove useful for tracing Thorpe kinsmen or forbears possibly in connection with the earliest drawings. A pedigree, it will be remembered, has been of real service in determining the individuality of the Smithsons.*

Really, an endeavour should be made to discover John Thorpe's will if it is desired to bring to light everything which can be known about his occupation and his son. The P.C.C. index searched from 1612 if necessary to 1640 (at a venture) might include the wills of both. These would determine years of death and other details, and it would be of interest to see whether the style "architect" is used in either case. Attested copies on record in the JOURNAL would be of value. The year 1618 or 1619 would best be first settled, and the spelling Thropes not overlooked should Thorpe be undiscoverable. The Northamptonshire Visitation of 1564 does not include "Thorpe," but "Thorpe of King's Cliff" is recorded in the 1618–19 Visitation, without arms, and "John Thorpe of London" comes in a likely position for identification. The London or Middlesex Visitations would be likely to give information. The coat blazoned by Peacham, it will be noticed, is a good one; an illustration supplied is well engraved (1612).

No mention whatever has been found of John Thorpe in the manuscripts at Rushton Hall, which consist of the correspondence and other papers of Sir Thomas Tresham. They go on pretty steadily from 1576 to November 1605, and throw much light upon Sir Thomas Tresham's building operations. His own written directions specifying the selection and working of stone, and descriptions, for example of the subterranean entry to the kitchen for Lyveden New Building, show knowledge and ability to contrive of which a professional architect might be proud. Read and pondered over, and re-read, the papers strengthen conviction that the controlling mastermind was that of the exemplary owner who patiently bore repeated and successive imprisonments and other troubles during the period the works were in progress. With one exception, there is no clue to the identity of the individuals who prepared plans and elevations of any buildings

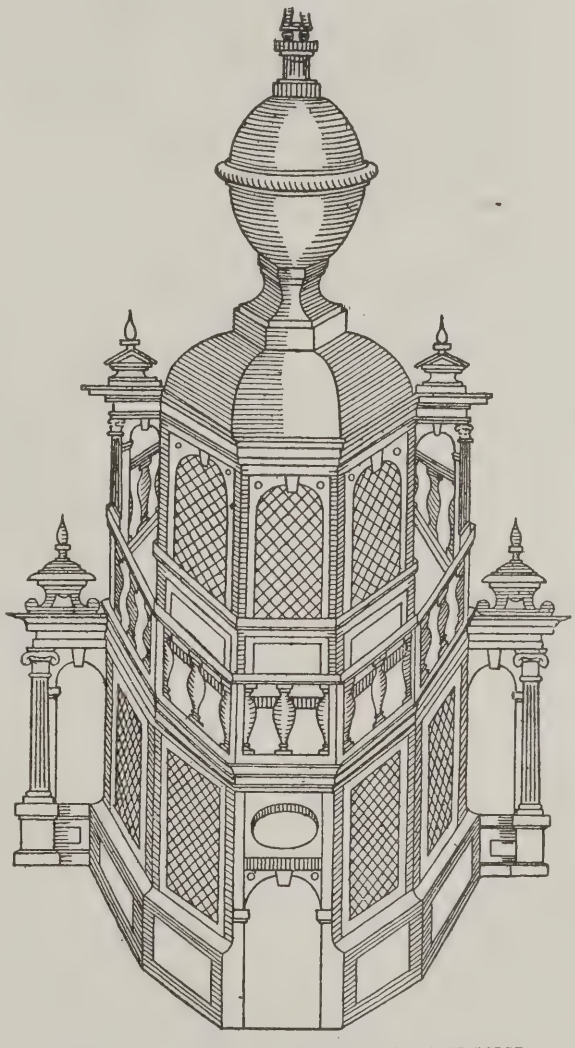


FIG. 3.—RUSHTON, NORTHANTS: VIEW OF THE HAWKFIELD LODGE.
Reproduced from Report on the Tresham Papers. Mrs. S. C. Lomas.

which he had so well in hand. It is noticeable that Sir Thomas personally instructed his steward how to draw the perimeter or "circuytte" of the garden platt at the New Building, and gave directions for the terrace and alleys, with fit arbours, ascents and passages, to be made "as in the platt I will demonstrate." These directions were given on 9th October 1597.

* JOURNAL R.I.B.A., 3rd Series, Vol. XVI., p. 140.

A letter to Sir Thomas from A. Downes dated 20th April from "Trinity College," and almost certainly of the year 1590, commences: "I have not be unmindful, since your man's being here, to provide you of two meet men, to serve both your needs. I named one Mr. Fletcher to you before of Caius College for the mathematics, he is ready to come at any time, when you will, if your work be such as he can skill of. Marry, if it be architecture, he doubteth he shall not be so well able to deal with it, anything else he dare undertake, pertaining to that art, therefore he would have you to send him word, what your work is, and when you would have him to come. He is, I can assure you, one of the cunningest we have in that faculty." Sir Thomas was then imprisoned at Ely, but he appears to have left soon afterwards for Hoxton, near town, where his stay was lengthened, and there is no further mention of Fletcher.

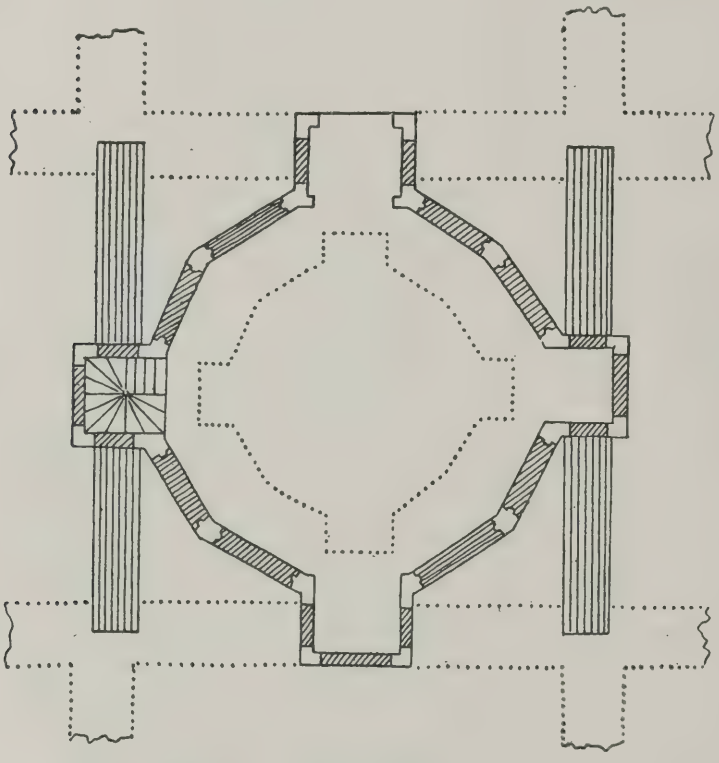


FIG. 4.—THE HAWKFIELD LODGE—GROUND PLAN.

In 1604, Sir Thomas states that he intends to resume building operations in March, apparently meaning March 1605–6, with special reference to Lyveden Old Building, thus breaking a pause in his building operations, probably the outcome of his son's folly in the Earl of Essex's insurrection. He tells his steward that John Slynn (his "keeper" at Lyveden) and Roland Stickles are to assist in overseeing the workmen. Without mention of the year, but under date 10th January, Roland "Sticiles" writes "to his master Sir Thomas Tresome* at Rushden,"—"Right worshipful, my humble duty remembered. I have made the ordnance (*sic*) according to your request and have made them by the symmetry or measure agreeing with the Doricke architrave, frieze and cornice. The enriching of the friezes, I refer that unto you and the workmen, and so I betake your worship unto the Almighty, who send you a merry new year in Jesus Christ." The letter endorsed "Stickles' moulds for building" plainly shows that Sir Thomas had something of skilled assistance beyond mere draughtsmanship.

The foundation of the Hawkfield Lodge at Rushton was laid on Tuesday, 2nd August 1596. A good deal of the stone had been already prepared, and in the autumn of 1597 the masons wholly finished their work for that year by "coping the walls and righting up the pendant stone." Though no remains now exist of the lodge, two plans and an elevation amongst the Rushton papers can be clearly identified from the steward's notes (figs. 3, 4, 5). The initials on the plan marked "Foundations" are those of Roland Stickles; there can scarcely be doubt that the plans were prepared by him or his father, for probably Roland was the son whose attainments Richard Stickles set forth in the letter to Sir Robert Cecil, dated 20th August 1600, which I quoted in the JOURNAL from the *Hatfield Papers*.†

There are no memoranda of any kind by which it can be determined by whom the actual plans were made for:—

1. Rothwell Market House, the first date in regard to which is the agreement with William Grombald, "freemason," 2nd July 1578; the building, it appears, was completed, and with stone from Sir Christopher Hatton's pit.

2. The Triangular Lodge the building of which from the beginning to the end can be followed, stage by stage, in the steward's account books 1593–97, noting progress with the utmost detail.

3. Rushton Hall, where a good deal of work was being done 1595–96.

* Sir Thomas invariably spelt his name Tresame.

† JOURNAL R.I.B.A., 21st Jan. 1911, p. 207.

4. Lyveden New Building, for which payments begin to be regularly entered to the Grombalds in 1596, and concerning which Sir Thomas wrote from prison at Ely to Slynn in October 1597 a long detailed letter.

5. Lyveden Old Building, no reference to which is found until 1604, when Sir Thomas intended to resume building operations and gave specific directions.

The only trace of a plan appears to be a neat diagram of the bay in the north arm of the New Building, with a note of its measurements.

The contract for Rothwell Market House includes items of masons' work which are to be executed according to "the plott," in one instance according to a plott already drawn *by* Grombold and shown to Sir Thomas. A payment is recorded to Parris, who was employed on the more elaborate and delicate carving, at a higher rate of pay than the best masons (but often paid by piece work) "for working the six gole end square stones att the Connegerie Lodge, as for drawyng sundry platts and workinge a payre of arms for the Hawkfield Lodge."

For the schemes of emblems and such like elaboration I think it is clear that Sir Thomas was responsible. There is no guide to the method by which his design or intention was conveyed beyond written description, and, doubtless, oral suggestions, nor to the source from which masons were enabled to prepare platts necessary for contract or executing work. That there were general plans is a conclusion which seems irresistible. With so much work on hand, besides many other cares and anxieties, even supposing Sir Thomas could have produced them with facility in geometrical fashion, it is natural that he should have availed himself of assistance, and being a man of clear ideas with great knowledge, that he should have been able to get the work carried out in conformity with his views. The masons were expert craftsmen, as witness the Grombolds; here then assistance came readily in the matter of certain details, and as it appears from his directions, under his guidance.

The Hawkfield Lodge drawings indicate sufficient *motif*. Until experience showed, perhaps there would have seemed no need to supply enlargements or further suggestion for superior workmen accustomed by tradition to interpret, the chief of whom could depict features and carving to express the representation desired in material. The masons would naturally have contrived windows, bays, and other external features from small scale plans and elevations to agreed dimensions, but moulded work of cornices and other foreign detail with which they were unfamiliar called for the supply of details if, in any sense, the spirit was to be expressed. And no doubt Sir Thomas soon discovered this; it is clear that he desired and took steps to ensure that certain classic detail should be interpreted according to module, or founded upon correct example. It may be worth recalling that the Smithson collection includes details made in this period of severe transition; details for features which in other instances contemporary records prove to have been the subject of contract with tradesmen who themselves prepared drawings to elucidate their agreements.

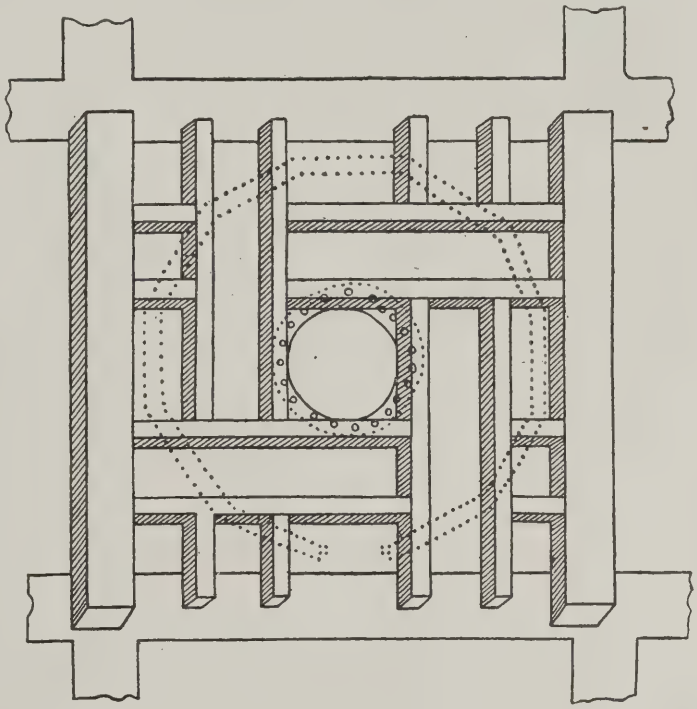


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FIG. 5.—THE HAWKFIELD LODGE—FOUNDATIONS.

Had any been found, of themselves delineations or sketches by Sir Thomas Tresham would most likely have given a poor idea of the considerable share he had in the production of building and

architectural work clearly shown, however, by his letters. Still, it is evident that he collaborated and secured professional assistance, whether of individuals who then were styled "architects" is doubtful. If they were competent and practical there seems no good reason why they should be denied the title which there is good reason for bestowing upon Sir Thomas Tresham. Stickles seems to have been qualified, but as yet, I believe, we have no evidence that Thorpe drew plans which were carried into execution, and his connection with any of Sir Thomas Tresham's buildings is not established. That no plans of work attributed to him have been discovered is disappointing.

A letter from the *Loseley Papers* may be of interest, showing that Burghley attempted a drawing but was glad to be relieved :

Sr,

This other daie at my being at Guilford, when I vewed the Friorie theare, I made a rude trick thereof, in a manner of a platt wth mine own hand, at w^{ch} time a servant of yo^{rs} or Mr Wolleis beinge present, and being a mason, as I remember, he offered him to mak the same more parfitlie, and to bringe or send y^{t} to mee since w^{ch} time, havinge not herd from the partie nor knowinge whoe he is, I hertelye praye youe to inquir for him, and if the platt be made by him to send yt to mee, or yf yt be not done to cause him to hasten yt, for that I find her Ma^{tie} to continue her good purpose to bestowe som cost thear. And so I commend mee hertelie to youe. From the Cort at Cowdraie this xvijth of August, 1591.

Yo^{r} vearie loving friend,

W. Burghley.

I pray you cause y^{e} height of a spryng to be taken of water being in a corn-feld, under a hedge north-est fro' y^{e} Freary house.

Finally, an extract from the *Paston Letters*, with the commentary for what it is worth :

This letter, though not subscribed, is no doubt from John Paston to some person unknown. * * * We give the passage respecting the effigy as a curious notice of the state of art in England at the time, having one artist to make the drawing, and another to carve it:—"Sir, I pray you that * * * ye will remember my brother's stone, so that it might be made ere I come again, and that it be cleanly wrought. It is told me that the man at Saint Bride's is no cleanly portrayer, therefore I would fain it might be portrayed by some other man, and he to grave it up." It has no date, but must have been written in 1479-80.

Paston Letters with Fenn's notes, Ramsay's Edition, MDCCCXL, Vol. II. p. 163. (Gairdner gives original spelling.)

This refers to the special work of the sepulchral monument. Of the century preceding the period that has been considered, if the commentary is sound, it is just an instance of a proposal, and the writer did not hesitate to make it, that a superior mason (or sculptor) should have a drawing from another hand with the object of ensuring a good result. Little surprise, apart from this, if craftsmen were supplied with details a century later when foreign styles were attempted.

The drawings for the new lodge (probably a garden house) "in the Hawkfield" at Rushton having been brought to notice in the foregoing account (and reproduced from the Report), further information which Mrs. S. C. Lomas collected from the Rushton Hall manuscripts will be of interest. The diameter of the lodge was only 17 feet, and it appears to have had no chimney. The roof was vaulted and supported by a central pier; many entries concern the "grete pier" or "canted pillar." Six trees were "spent" for lintols "eache carryinge almost a fote square, and in length 14 or 16 fete." The entries chiefly relate to working and setting of "coynes and jawmes"—occasioned by the many window openings and angles. Later, the parapet, ribstones for the "vaute," springers, archstones and "chaptrells" are noticed, together with an architrave, frieze, and cornice for the pier. Three doorways are referred to, two with date stones, the other with the Tresham Arms carved by Parris; other freemasons' work was done by the Tyrrolls, a family of masons. The name of the family employed on other work is spelt either Grombald or Grombold.

Briefly, the investigation now brought to a close discovers :—

A. John Thorpe was located in the parish of St. Martin's-in-the-Fields in 1592, a date much earlier than hitherto cited.

B. Peacham's reference to two Thorpes, father and son, is *first* recorded in 1612, but the Christian name and occupation of the younger are left at any rate in doubt; besides, it is impossible at present otherwise to distinguish them, and we must continue to speak simply of John Thorpe.

C. A Mr. Thorpe held an official position, clerk of her Majesty's works—probably John; if so, John was not merely a draughtsman and recording surveyor, as sometimes thought.

D. Sir Henry Neville, for whom Thorpe presumably *planned* the house drawn (fig. 1), recommended Mr. Thorpe, in 1600, for promotion in England. Sir Henry was then Elizabeth's Ambassador in Paris, significant when considering Thorpe's drawings of Paris buildings dated 1600, &c.

E. Contrary to expectation, there is no reference whatever to Thorpe in Sir Thomas Tresham's manuscripts at Rushton Hall, whereas—

F. Another person—Roland Stickles (almost certainly referred to in the letter amongst the *Hatfield Papers* quoted by me in the JOURNAL, 21st January 1911)—comes to light in regard to the supervision of building work and the preparation of working drawings; further, one of three small scale drawings (fig. 5) bears his initials.

G. As might be supposed, Sir Thomas Tresham's Papers throw much light upon buildings erected; they strengthen a view, not always accepted, that drawings necessary for the execution of work were by no means invariably made by the craftsman.

LINCOLN MINSTER.

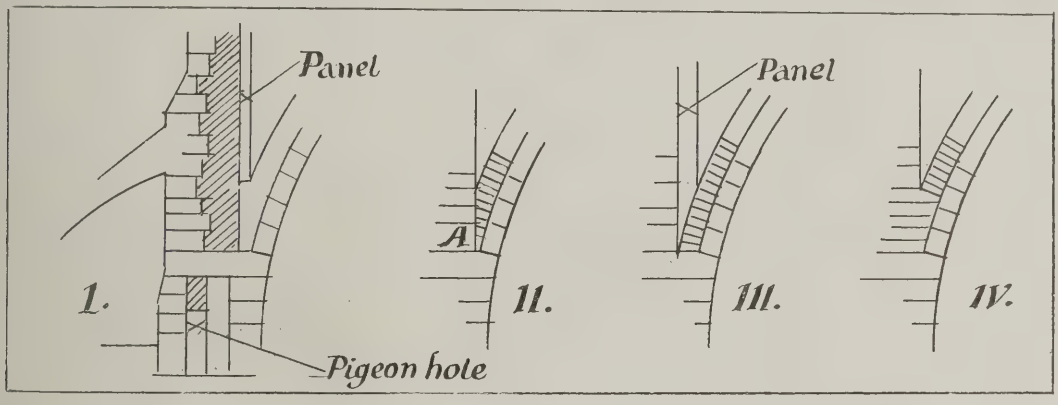
From Sir Charles Nicholson, Bart. [*F.*].—

In common with other readers of the Journal I have been greatly interested in Mr. Bond's conjectures with regard to St. Hugh's choir. With considerable diffidence I venture a few observations on the subject.

First of all, it is difficult to believe that either St. Hugh or Geoffrey Dunoyer would have been content with timber roofing. Had not the Norman nave of Lincoln been vaulted already? Then the chapel of Witham Charterhouse, St. Hugh's old home, is vaulted, and St. Hugh must have known the new works at Wells, where vaults were projected, if not built, in his time. Again, with Durham to the north of him and Canterbury to the south, it is very unlikely that so progressive a builder as Dunoyer, working for a wealthy diocese ruled by one of the most influential bishops of his time, should have denied himself the pleasure of experimenting in vault construction. Whether he actually built the high vaults at Lincoln is, of course, another matter. Now Lincoln choir is, as Professor Lethaby points out, Canterbury done into English. The ground plan and cross-section, the proportion of the bays, the design of the triforia, the abutment system, the decoration by marble shafts, all go to show that Dunoyer knew Canterbury and had studied it to some purpose.

As regards the double wall arcades: even if we for a moment concede that Dunoyer did not design high vaults, it is morally impossible that he did not mean from the outset to vault his aisles. The two planes of arcading may nevertheless be of different dates: possibly, when the walls were building, the canons, with Lincolnshire caution, thought their architect was taking risks and ordered him to alter his design. Or perhaps the inner plane of the arcades was added after the fall of the tower, when it would have been natural to undertake works of strengthening in all parts of the church. And perhaps the external buttresses were altered and the arches across the triforium added at the same time. But if this was so the panic caused by the fall of the tower must have been short-lived, for the nave is one of the lightest buildings in this country, and in this respect surpasses all contemporary works of its size.

The two pieces of evidence on which Mr. Bond's theory is based are the small openings under the clerestory windows, which may be called for brevity the "pigeon-holes," and the recesses in the vault pockets, which we will call the "panels." Now the facts do not quite fit in with Mr. Bond's restoration. He considers the outer plane of the clerestory windows to be St. Hugh's work; but then the "pigeon-holes" do not centre with the clerestory windows; moreover, they are irregular and on different levels, all of which points to the conclusion that they were designed for some utilitarian purpose and not as part of a continuous triforium arcade. As for the "panels," they only penetrate the wall for a very few inches, as may be seen in one or two places where stones are missing. Furthermore these panels occur on the inner plane of the clerestory, so if we accept Mr. Bond's deductions we must believe the clerestory to have been reconstructed in a zigzag manner, the outer half being renewed at each buttress, the inner half everywhere else. Moreover, if we examine the vertical section taken at the vault springing, the theory propounded by Mr. Bond would require that the new work should have been pieced to the old in the way shown in Sketch 1, which is difficult to believe.

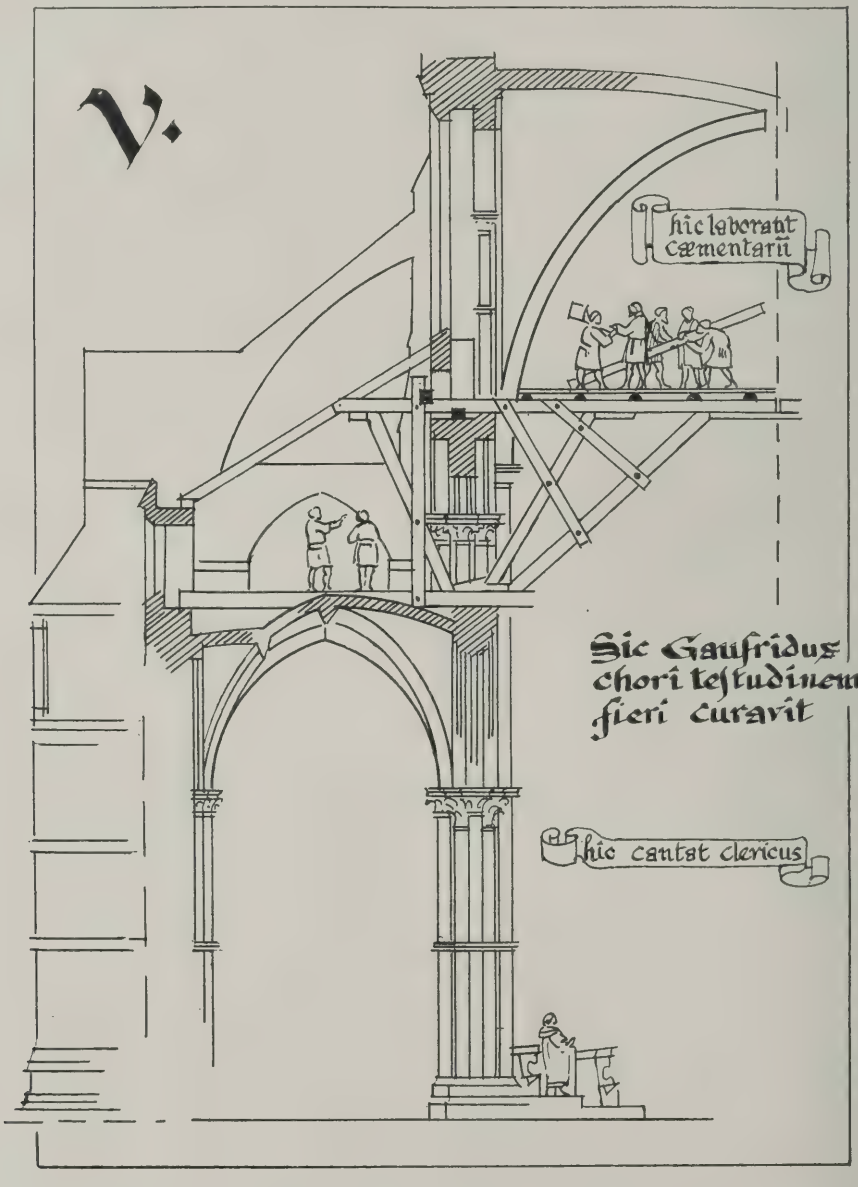


Then the "panels" are not even chamfered, and so can hardly have formed part of the internal plane of a clerestory in so rich a church as Lincoln.

The suggestion that a coupled bay design was necessitated by the difficulty of getting long purlins may be discounted. St. Hugh's roof most likely had no purlins at all, but its rafters and tie beams must have been 40-foot timbers, whereas the bays are only about 21 feet 6 inches centre to centre.

I venture to propose an explanation of the "pigeon-holes" and the "panels" upon the assumption that Dunoyer planned, even if he did not build, a high vault for St. Hugh's choir.

Taking the "panels" first, it must be remembered that at Lincoln there are four ribs besides the wall ribs to each of the vault conoids. I am unable to give exact particulars of the construction of the springers; probably the lintels over the clerestory passage form the skewback for the voussoirs of the ribs. These would not be rebated, but the rubble vault web would rest upon their extrados and upon that of the wall ribs. Referring to Sketch 2 it will be seen that if the skewback for the ribs is approximately in line with the inner face of the wall the vault web would have to spring from a pin point or a knife edge at A unless it were engaged in the wall. To commence the construction of the vault web one must have a ledge of some kind to build upon, and the "panels" would provide just such a ledge as was required (see Sketch 3). It must be remembered that it would have been unsafe to have built the vault web into a chase in the wall, as the least settlement would cause fractures. But another way of constructing the base of an independent vault



web is to corbel out the first few courses above the skewback for the ribs, and this plan may have been followed in some of the springers, *e.g.*, in the eastern transept, where "panels" do not occur in all the vault pockets (Sketch 4). By the way, none of these pockets are filled up at Lincoln except those under the organ.

Now as to the "pigeon-holes." Assuming that Dunoyer planned the high vaults but did not build them, he would have made provision for the work to be done later on without disturbing the canons in their choir. He could hardly have arranged to suspend a scaffold from the tie beams, but with the aid of the "pigeon-holes" an effective floor could be constructed with light timbers across the whole choir, and above this the masons could build their vault. Such a scaffold could well be formed with 30-foot poles. These would be lashed together at the ends and strutted up from the triforium ledge. Now if these poles simply rested on the floor of the clerestory passage the scaffolding would be much less secure than if their butt ends could be taken through the clerestory sill-walls and there anchored to the triforium rafter-heads (Sketch 5). Each side of the scaffoldings would then be carried on a series of strong cantilevers, and comparatively light scantlings would have been sufficient. The "pigeon-holes" behind the vault springers could not have been intended for cantilevers at right angles to the axis of the church, as these would be in the way of the springers. But they are just in the right place to receive the ends of diagonal braces lashed underneath the main cantilevers. And it is possible that some of the centres for the vault ribs were fixed with the help of these particular "pigeon-holes."

The device suggested would not only enable a cheap scaffold to be constructed for the purpose of building the vault, but would also have been a convenient provision if it were intended to rig a lighter scaffold at any time for the purpose of repairing or painting or whitewashing the vaulting.

And, once again, it is possible that the pigeon-holes were left for the very simple reason that holes are both lighter and cheaper than walling stones. If there were no holes there would be walls here, for the clerestory passage is, as usual, lower than the clerestory window sills, otherwise the windows would be partly masked from the church floor.

Perhaps these theories are more plausible than practical, and I venture no opinion as to the date of the vaulting and the abutments as we now see them in St. Hugh's choir; but it seems worth while to suggest an explanation of the "panels" and the "pigeon-holes" which does not upset all our cherished beliefs about St. Hugh and Geoffrey Dunoyer.

CHARLES A. NICHOLSON [*F.*].

20*th March* 1911.

From Mr. JOHN CODD [*A.*]—

I fully appreciate the elaborate and carefully illustrated papers of Messrs. Bond and Watkins; they are most valuable as bringing together and attempting to solve some of the difficulties which from the absence of documentary evidence attend the history of Lincoln Cathedral. They have done much in setting forth facts upon which surmises may be grounded. May I add a few more comments on their communications printed on pages 301–7 of the JOURNAL?

As regards the "pigeon-holes," Mr. Bond does not quote me quite correctly. After referring to the, I believe, previously accepted view that St. Hugh's work did not extend higher than the stringcourse over the main arcades, I said: "Possibly a temporary clerestory may have been added, with a wood roof over." The pigeon-holes look more like the inner or roof side of window-heads than anything else; they may have been old arches re-used, under a mistaken idea of construction, to reduce the weight over the triforium arches. As has been pointed out, much of that work is by no means carefully built, either externally or internally. These openings are a puzzle. If three such learned archæologists as J. H. Parker, Sir Charles Anderson, and Canon Venables could make nothing of them, I fear we shall not rede the riddle.

What Mr. Bond, quoting Professor Willis, describes as "somewhat singular" is, in fact, the usual construction of the large churches of France—the clerestory walls carried wholly or in part upon arches springing from the solid piers which divide the bays. There is, as Messrs. Bond and Watkins point out, nothing in common between this method of construction and the so-called pigeon-holes.

The result of my study is that thirteenth-century builders never sacrificed vaulting to lighting.

Is it possible that St. Hugh could have introduced three windows into each bay of the clerestory in 1192? He could scarcely have carried out all the work attributed to him during his brief episcopate; indeed, it is not probable that the foundations even of the choir were put in in his first year, much less that the work was carried up to the clerestory in that year. All that work is (I can almost say) obviously of later date, well into the next century, and, taking into account the two interregnums and the unsettled state of the country, probably not earlier than Hugh of Wells. Mr. Bond suggests (page 302) that the inner arcade and much of the outer clerestory walls may have been rebuilt. I submit that there was nothing to rebuild.

I did not *object* to the view that the aisle walls were thickened to carry a vault. My notes were rather in support of that view. I said, "It may be so," and I added, what Mr. Bond now puts in other words, "rib vaulting was then in its infancy." In the earlier attempts at rib vaulting, the ribs were carried down independently to the caps instead of

the more constructional solid springers of later date. I *think* Mr. Watkins will find, if he will look at them, that the ribs of these choir aisles are so treated. I mention this as an indication of the early character of this vaulting.

Mr. Bond's quotation from Precentor Venables does not affect what I said with reference to the chevet. Mr. Pearson, of course, saw the plan, and equally of course he said the foundations represented the original plan of the east end.

Messrs. Bond and Watkins have apparently misread my remarks on the oblong northern chapel of the eastern transept. I referred to the "base mouldings"—they appear to have read "bases" for base mouldings. That, however, does not affect the improbability of two chapter houses being in course of erection at the same time—*i.e.* 1200-15.

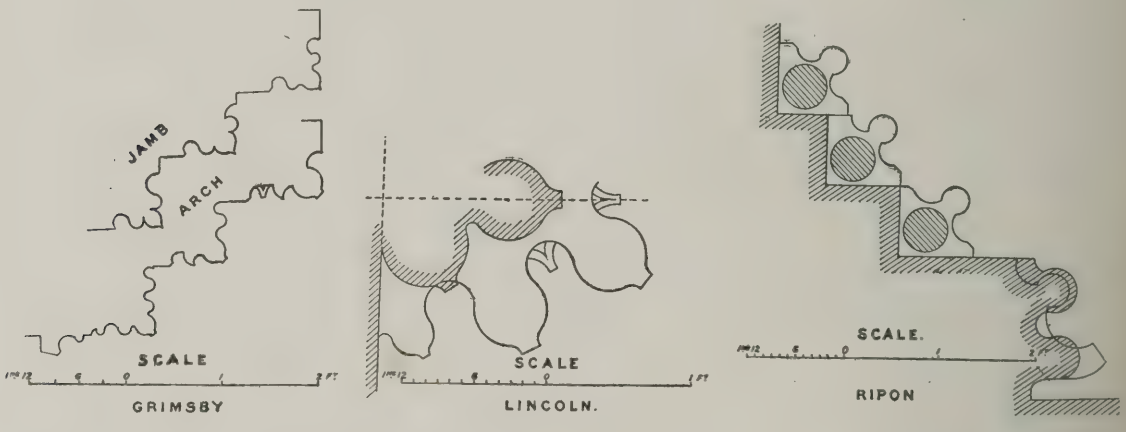
The motif of the apsidal east end with its "clustering chapels" is undoubtedly foreign, not necessarily derived through Canterbury. This treatment, however, soon went out of favour in this country. In all the abbey churches quoted by Messrs. Bond and Watkins the apsidal had given way to the square east end—the later treatment. It might reasonably have been expected, taking into consideration the fact that St. Hugh was a foreigner, and very possibly his architect was also a foreigner, that traces of French influence would have abounded in his work; but with the exception of the original apsidal plan, afterwards abandoned, there is no trace of foreign influence.

There is no Transition work at Lincoln, it jumps at once from the Norman of the western doorways to fully developed and in many cases deeply moulded Early English. This has always been a puzzle, and there has been much speculation as to whence this architecture, nowhere else so fully developed at this date and with no traces of infancy, has been derived.

As Mr. Bond says, all the Lincoln caps are circular on plan, but he adds: "This may also be due to Canterbury precedent." Has he forgotten that the most important caps in Canterbury Cathedral, those of the apse and choir arcades, are square, not circular?—indeed, nothing could well be more distinct in character than the clustered piers of Lincoln with their round caps and the coupled shafts of Canterbury with their square ones.

I wonder whether Mr. Bond has seen Clee church? I took a rubbing of the inscription he quotes many years ago. It is (or was then) cut into one of the stones of one of the round piers of the south nave arcade, an arcade purely Norman, with the usual Norman capitals and semicircular arches with chevron ornament. The arches of the crossing are First Pointed, of good and early character date perhaps 1200 to 1210. The inscription is not connected with them. There is no work of this kind at Lincoln.

One cannot help noting that many of the facts Messrs. Bond and Watkins bring forward are ancient history. For instance, the dates of the high vaults, the late date of the vaulting and abutments of the Chapter House, the subsequent addition of the second wall arcade to the choir aisle, the date of the eastern chapels of the lesser transepts, &c. They are wrong, however, in putting the vaulting of the central transept so late as Grosseteste. See my former communication.



Mr. Watkins assumes that "St. Hugh's Sanctuary with its chevet of chapels" was demolished to make way for the present retrochoir. I am afraid there is not a shred of evidence that this work was ever carried up higher than the existing foundations. If it had been, what has become of the immense mass of old material which would have been available, and, following all precedents, would have been built into the new work? I know of no such existing remains.

May I add that any views I have expressed are not the result of casual visits? I had during a period of some thirty years exceptional opportunities for studying the work at Lincoln. It is this fact, and the desire to assist, so far as I am

able, in elucidating the many points of interest and difficulty to some of which Messrs. Bond and Watkins have called attention, that has led me to offer these comments.

I am convinced that their contention as to the choir triforium and clerestory is inadmissible. If Mr. Bond likens the existing work to a pyramid resting on its point, what shall we say of such a construction as is shown on page 44 of the JOURNAL? It lacks the solid piers which alone give the existing structure stability. Compare the illustrations 5 and 6 on pages 44 and 45.

It has always struck me that Beverley shows more of the Lincoln character than any other building.

It may be interesting to compare the accompanying sections, all drawn to scale on the spot. The Lincoln one is from the wall arcade of the Chapter House; it is characteristic and not commonplace. See also the fully developed First Pointed work shown on page 37 (Bond and Watkins), which must be prior to 1200. The others, from a circular-headed doorway at Ripon and from a Pointed doorway at Great Grimsby, have no such distinctive individuality, and nothing in common with the Lincoln work.

JOHN CODD [*A.*].

THE CHURCH OF THE HOLY SEPULCHRE, JERUSALEM.

The important subject of my brief and cursory Paper, published in the JOURNAL R.I.B.A.,* has evidently proved of considerable interest to English students. Mr. Phené Spiers has contributed a most interesting note on the affinities between mediæval Palestine and Sicily, and his definition of the very characteristic and curious (and it must be confessed ugly) arch decoration as the "cushion voussoir" is most happy. I have often thought of a term to apply to this peculiar form of moulding, but the only simile occurring to me was an extended concertina.

The more I study the masoncraft of Spain, South Italy, Cyprus, and Palestine, the more I am impressed by the strong similarity in almost every detail, as well as in the general character of work of the later Crusading epoch in all these countries. The same pointed-arch construction with wide moulded splays to windows, nook shafts to doors, weathered buttresses, moulded cornices, and string-courses may be found in all these countries of the fortieth parallel of latitude. As I have pointed out in my article on St. Sepulchre, the very distinct influence of the French Provençal character makes itself felt in the building, which was consecrated in July 1149. This was doubtless due to political influences of the period, but at the same time the vigorous early Gothic of Southern Europe was asserting itself, and such a marked feature as this "cushion voussoir" was evidently introduced, as Mr. Phené Spiers suggests, from Sicily. After the middle of the twelfth century the "Early French Gothic" used by the Latin colonists of the Levant diminishes in importance, and an evident importation of regular "Flamboyant" art takes place. The Church of the Holy Sepulchre, the older part of Nicosia Cathedral, and the ruined churches of the Carpass and in some parts of Syria, belong to the earlier and purer French style, while such a monument as St. Catharine's Church, Nicosia, displays the fully developed Flamboyant of the fourteenth century as it was understood in Sicily or Spain.

The constructive features of the Flamboyant style are less pronounced in the south of Europe than in the north. The innumerable ribs of the vaulting, the multiplicity of intersecting mouldings, and the infinitude of tracery designs to which we are accustomed in European churches of the later Gothic have no exact parallel in the southern countries, except in Catalogna and northern Spain. Flamboyant carving of the richest and most extravagant character is, however, to be found as far east as Cyprus. A remarkable accompaniment of the style in all these countries which strikes the northern visitor with a sense of incongruity is the regular moulded chevron arch of a pointed form—a style of decoration which we English only associate with our "Norman style."

Mr. Phené Spiers does not give any account of the very imposing gateway of the Gama-ez-Zaher which he illustrates with such charming drawings. I suppose it to be the monument of the Zaheree Sultans of Egypt, who flourished about the end of the fifteenth century. This peculiar style of "cushion voussoir" decoration has been used in the Palestine region ever since the twelfth century, and even at the present day it is occasionally introduced into modern buildings.

The two representations of the south transept of the Holy Sepulchre Church which Mr. Davies contributes are well known to every student of Palestinian archæology. In my notes on Breydenbach's *Pilgrimage* I have the date of the book as 1483, but Mr. Davies may be right in saying that this is the date of Rewick's visit to Jerusalem. The first edition of Padre Noe's *Viaggio* in the British Museum is of 1500; it was evidently a mere copy done in Italian of the larger German work, and both were written about the same time for the use of intending pilgrims to the Holy Land. In Padre Noe's book are the practical guide-book instructions of what the pilgrim is to take with him on the journey: "two purses, one filled with ducats, the other with 'pazienza,' both very necessary in that inhospitable country, and the medicines and the food, and a good barrel of wine. As to the value of the illustrations of the south

* JOURNAL for August, September, and October 1911.

façade of the church, both the German and the Italian editions are equally uncouth, and if anything the German is the least artistic, as it exaggerates the blunders of the draughtsman and shows a mysterious dome which could never have existed over the place of the high altar, and a most extraordinary muddle in the building on the left. However, they are authentic representations of the period and serve to show how very little the general appearance of the place has changed in the course of so many centuries.

With regard to the additions to the bibliography of the subject, I have mentioned in the bibliographical notes at the end of my Paper that the number of books on the Holy Land is quite enormous, and anything like a complete list would require a small bibliographical manual to itself. Nicholas le Huen is merely a French translation of Breydenbach, just as Padre Noe appears to be a translation into Italian. All these books are of about the same date (end of fifteenth century), and the copy by one author from the other of the S. front of the Holy Sepulchre church is so complete as to include the group of pilgrims in the foreground,

An even more interesting account of Jerusalem in the early sixteenth century than Bartholomew de Salignac's is the dialogue between a monk and a nun by Fra Francesco Suriano, Guardian of Mount Sion at the period just before the Turkish occupation and upheaval in 1516. This curious work has recently been edited by Fra Girolamo Golubovich, of Jerusalem (1900), from two or three MSS. of about 1500.

With the seventeenth century books and their illustrations cease to have any originality; they are mere copies one of another, and even the identical plates which were presumably engraved in Holland for Zuallart find their way over to England to serve for George Sandays' "Travailes."

Dr. Robinson, in his "Biblical Researches," 1838, printed a good bibliography of the principal German and French books on the Holy Land known at his time—all of which may probably be found in re-edited forms in the public libraries of Europe at the present day.

George Jeffery,
Curator Anc. Monts. Cyprus.

REVIEWS.

ANCESTRAL RELICS.

The Arts and Crafts of our Teutonic Forefathers, being the substance of the Rhind Lectures for 1909, *by G. Baldwin Brown, M.A., Watson Gordon Professor of Fine Art in the University of Edinburgh.* [*T. N. Foulis, London and Edinburgh,* 1910.]

From Marcus Aurelius to Charlemagne is a far cry (no less, in fact, than 650 years), and Europe is a large tract; yet the book which Professor Baldwin Brown puts before us is practically an attempt to prove some connection, ethnic and artistic, in the scattered craft of that vast time and region. Europe, as everyone knows who has studied its history, was during those centuries the receptacle rather than the abode of an ever-shifting assemblage of tribes. Nothing, in fact, better exhibits the perpetual vicissitude of that population than the simple consideration that the author in his clearly expressed explanation of the varying distribution of races needs to employ no less than twenty maps. History and geography are alike reduced to chaos by the turbulent migrations of the sturdy nomads who are here so peacefully combined under the title of our Teutonic ancestors. Nothing, I imagine, would have more surprised the minds of those warriors than to be told that they were engaged in a common artistic enterprise, unless it might be the announcement that they were to enjoy another united interest in supplying parentage to Professor Baldwin Brown and you and me.

If you care to work it out you will find that by the simple process of having two parents, four grandparents, and eight in the previous generation, each one of us may logically claim over two thousand million direct ancestors in the ninth century. This liberal ratio of parentage does not of course prevail in actual practice for two excellent reasons; one being that Europe in the ninth century did not contain even a tenth of the required population, the other that folk largely select wives from families within their own tribe—in other words, husband and wife have some, however remote, common ancestry.

But subject to these limitations there is room for supposing that our forbears may have been well distributed among such races as were sufficiently friendly or sufficiently conquering to appropriate consorts from peoples other than their own.

Let us then respectfully take a children's pride in the works of the Goths, Burgundians, Alemanni, Vandals, Longobards and Franks, as well as of the more recognised Angles and Saxons to whom we may owe a share of our existence.

The objects which the writer passes in review and exhibits in his illustrations are naturally of an extremely varied character. The great question which arises in connection with his study of them is, of course, how far are they genuinely Teutonic? Or, to put the matter in another way, we may ask first whether there is about them any general stamp of common character; and secondly, whether there is in any of them a reasonable suspicion of Roman, or rather, Latin influence. To this aspect of the matter Professor Baldwin Brown is fully alive. "We can in general," he says, "recognise them (the Teutonic works) at a glance and distinguish them from objects of the same kind that are of Celtic or of Roman origin or that represent the work of Western Europe in its later or Romanesque phase." At the same time he admits that good

authorities have differed on the question of the extent or absence of Roman influence, and he devotes one of his chapters entirely to a discussion of the arguments bearing on this question of origin. The fibula—an article varying in its development from a buckle to a safety-pin—is the subject of considerable controversy in this connection. Some antiquaries have held that the fibulæ of the so-called "Provincial Roman" type were all made in provincial Roman workshops and imported by the barbarians of Northern Europe; others have argued from interesting local variations in the finds that they must have been of local and Teutonic make.

Apart from the desirability of tracing local and racial characteristics, there is, of course, the natural wish to find some chronological development. At the monastery of Kremsmünster in Upper Austria there exists to this day a chalice known as the Tassilo cup, which shows by its slight use of classic foliage in a general scheme of Teutonic design that mixture of German and Roman æsthetic which is the sign of the Carolingian taste. It belongs in fact to the period known as the Carolingian Renaissance, a phase of art which is a reflection of Charles's policy. He was "before all things a patriotic German who did not wish to supersede the native art, but aimed at a synthesis between it and the older classical forms."

The Tassilo chalice is the last word in this gallery of art. It would be difficult to say which is the first, for it will be readily understood that dates in this period of obscurity are uncertain.

Midway in the period come some objects of fixed date which are to be seen in the Church at Monza. Of these, the most celebrated is, of course, the Iron Crown of Lombardy, the beauty of which is only rivalled by the reverence in which it is held and its great historic interest. This treasure is mentioned but not illustrated. Professor Brown accords it seventh-century origin, though some have thought its ornamentation to be of much later date. He records also the book-covers of Theodolinda's period, but to my surprise has no mention of the remarkable "Hen and chickens," a striking specimen of conventional art which, as far as I know, is not under any suspicion as to its antiquity.

There are altogether 126 illustrations in this little volume. It is therefore evidence of a very wide and comprehensive search throughout the museums of Europe. All that can be said in criticism of the collection is that in many cases they are too small to do justice to their subjects. If the author should ever bring this volume to reissue it would be well worth while to make them by increased size more worthy of the excellent text which they accompany.

And in one other respect he might help his readers, who may at least in some cases be beginners in archæology. The terms "Hallstatt culture" and "La Tène culture" are not familiar except to students of the Iron Age.

These comments are but unimportant observations on a book of genuine interest and of great learning. The mere attempt to systematise the confusion of this vast period is in itself an act of courage which could only be attempted by a writer of very wide knowledge and exceptional powers of expression. It is enough to say that Professor Baldwin Brown has once more given evidence of that knowledge and these powers. He has produced a book which on a very tortuous and heterogeneous subject is both readable and simple.

PAUL WATERHOUSE [*F.*].

COST OF SCHOOL BUILDINGS.

Board of Education Committee on the Cost of School Buildings. Report and Abstracts of Evidence taken before the Departmental Committee on the Cost of School Buildings. Imp. 8vo. 1911. *Price 6d.* [*Wyman & Sons, Fetter Lane, E.C.*]

The Report of this Committee comes at an opportune moment. New materials and methods of building are being adopted; large public buildings, such as the latest New General Post Office, additions to the National Gallery, &c., are being designed upon scientific lines and built with the smallest possible quantity of material and at much less cost than by previous methods. At the same time, in London and other large cities the construction of buildings is modified and the cost increased by numerous Acts and Byelaws to ensure exceptional stability, lessen the risk of fire, and obtain hygienic environment.

During the past generation many experiments in school building have been made. There is the "Ecclesiastical" type, justly referred to here as "a most unhappy invention"; there is also the type resulting from the "laudable desire to have the best school building which money can buy," and alas! there are many buildings which are fairly described in this Report as "cases in which the employment of a local official whose principal duties are not those of an architect has led to results just as unsatisfactory as arise from the employment of an independent architect who has made no special study of schools." Fortunately, among these various types a leaven is apparent, composed of buildings in which educational value, convenience, comfort, and general efficiency are combined at a reasonable cost.

The results of the inquiry are presented under the following heads:—

A. The "useful life" of School Buildings.
B. Circumstances affecting the cost of Elementary School Buildings.
C. Actual cost of buildings as erected at present.
D. Possibility of saving on certain details.
E. Novel materials and methods.
F. Building Acts and Byelaws.
G. General conclusions.

H. Recommendations, followed by abstracts of the evidence of thirty witnesses, and various appendices relating to cost, exemption of buildings from the operation of Byelaws, &c.

Owing to changes in school organisation and in the standard of school hygiene and comfort the period of "useful" life of these buildings is limited, and has been, and is likely to be in the future, less than that of their "structural" life. The Committee emphasises the obvious fact that in future school buildings need not be as permanent as warehouses or churches.

The inquiry has made it clear that the time is ripe for looking back at the experiments of a generation in order to profit by the experience gained, and for looking ahead to prepare for the progressive development of elementary schools, by designing a type of semi-permanent building which shall be "cheap to erect, inexpensive to maintain, cool in summer and warm and dry in winter."

The purely temporary school building is said to be "at best an expensive and unsatisfactory device, only justifiable in cases of emergency."

Some of the causes which are stated to increase the cost of School Buildings *per cubic foot* are :—

1. Position and nature of site and subsoil.
2. Building Acts and Byelaws requiring excessively strong walls and floors and extravagant construction.
3. Careless or ineffective planning.
4. Ornate elevations, extensive use of stone or terra cotta, dormers, elaborate roofs, &c.
5. Boundary walls instead of fences.
6. Too stringent building contracts.
7. Neglect of local materials.
8. Fire resisting materials and construction.
9. High standard of warming and ventilation.
10. Increase in cost of labour and materials when building work is in exceptional demand.

In addition to the above the following causes may be said to increase the cost *per head of accommodation* rather than per cubic foot, viz. :—

1. Increased floor space in teaching-rooms and cloak rooms.
2. Provision of rooms for special subjects, *e.g.*— Domestic Science, Manual Instruction, Medical Inspection, Baths, Dining-Rooms, &c.
3. Increased playground accommodation, paved and covered surfaces.
4. Provision not made for future extension of buildings.
5. Larger and more suitable offices.
6. Costly sites in main thoroughfares rather than suitable sites in side streets.
7. Separate assembly halls for each department.
8. Taken over the whole area of a county, the provision of special schools for the physically and mentally defective is also a factor in raising the cost of buildings per scholar.

Some very interesting facts are given as to actual cost of buildings in various localities and the possibility of saving on details, but perhaps the most useful evidence is recorded under heading *E. Novel materials and methods*, including :—

1. Steel frame buildings.
2. Reinforced brickwork.
3. Ferro-concrete buildings.
4. Brick buildings with solid 9-inch walls.
5. Brick buildings with thin hollow walls.
6. Timber frame buildings with slab casing.
7. Wooden buildings.

The witnesses were unanimous in regarding as desirable the exemption of school buildings from the operations of Building Acts and Byelaws, in order to give freedom in structural design, use of materials and methods of construction, subject only to the approval of the Board of Education, and the Committee have no hesitation in recommending that the existing obstacles to experiment should be removed.

The general conclusions on pages 29 and 30 should be carefully read by all architects who are studying school work. The references to competitions for school buildings on pages 10 and 29 are specially significant, as coming from persons who are in daily touch with the results of such competitions.

The recommendations of the Committee refer exclusively to novel materials or methods for the construction of public elementary school buildings and the means by which their use may be promoted.

This most interesting Blue-book is a very useful addition to the literature relating to School Buildings.

J. Osborne Smith [*F.*].

Victoria and Albert Museum.

Mr. Sydney Vacher has recently presented to the Victoria and Albert Museum a valuable series of studies of Pompeian Ornament and Mural Decoration made by himself in 1879, and a number of these have now been arranged for exhibition in the Department of Engraving, Illustration, and Design (Room 70). Among other additions to the exhibition rooms of this department are a series of tracings of old English stained glass, chiefly from the Minster and other churches in York, by Mr. Lawrence B. Saint (Room 71); original designs for woven silks, made at Lyons in the second half of the eighteenth century (Room 72); while to the collection of tools and materials illustrating the process of making Japanese colour-prints, in Room 74, a case has been added containing a set of Japanese brushes (the gift of Mr. B. H. Webb) and original drawings (unused), by Hiroshige, Kuniyoshi, and Kunisada II. In Room 65, a collection of Japanese colour-prints is now exhibited, illustrating the treatment of landscape subjects in this method by various artists.

9 Conduit Street, London, W., 1*st April* 1911.

CHRONICLE.

Postponement of Sessional Papers.

The Paper by Mr. R. Anning Bell on "Coloured Relief as Decoration" is postponed from the 10th April to the 22nd May, and Mr. Lawrence Weaver's Paper on "The Interleaved Heirloom Copy of the *Parentalia*, and some Notes on the Wrens" will be read on the 26th June following the Presentation of the Royal Gold Medal. The evening of the 10th April will be devoted to the consideration of the business to be brought before the Special General Meeting summoned for that evening [*see* Supplement].

The Coronation Decorations.

The following letter from the President of the Institute addressed to the Editor appeared in *The Times* of the 18th March :—

Sir,—In your issue of 15th March a leading article appeared in reference to the offer that has been made by Sir William Richmond, Mr. Frank Brangwyn, and other eminent artists to prepare a scheme of decoration for the route of the Coronation procession. The adoption of such a scheme, or at any rate, the adoption of the principle involved in the offer, would mark a great and desirable advance upon the artistic standard that has recently prevailed in connection with national celebrations of this nature. The finest work of the kind that has ever been seen in this country was done by the great English architects of the seventeenth century. In those days such men as Inigo Jones and Sir Christopher Wren designed the triumphal arches that were erected for the purpose of great Royal processions. Some months ago, on behalf of the Royal Institute of British Architects, I informed the First Commissioner of Works that we should be glad to lend our assistance in dealing with the problem, and as the co-operation of architects is obviously desirable, the Royal Institute will gladly place its services at the disposal of the artists who have made this generous offer or of any association of private citizens who may be considering the question. I am, Sir, yours very truly,

Leonard Stokes,
President R.I.B.A.

Extension of Time for Admission of Licentiates.

The Special General Meeting summoned by the Council for the 20th March 1911 was duly held on that date, the President, Mr. Leonard Stokes, in the Chair. The business before the Meeting was to consider a motion by the Chairman that the Council be authorised, in accordance with Clause 1 of the Supplemental Charter, to continue to elect Licentiates of the Institute until the 31st December 1911.

The President, in moving the resolution, reminded the Meeting that after long and careful consideration, and much discussion extending over the years 1905 to 1907, a programme was at length unanimously agreed to by the General Body at a meeting of the Institute held on the 4th March 1907. First of all, it had been necessary to obtain a Supplemental Charter, providing for a temporary class of Licentiates, defining the Fellowship, and laying down a course of architectural education and examination to be gone through by all candidates for membership. This was now a matter of history : a Supplemental Charter had been granted, and fresh By-laws to carry it into effect had been drawn up and sanctioned. Under the Charter Licentiates were to be admitted for a period of twelve months after the coming into force of the new By-laws, the object being to enrol as large a proportion as possible of the profession, so that the Institute might be in a position to go to Parliament with a Bill to secure the statutory recognition of qualified architects. It was thought that if the Institute could approach Parliament in the name of the entire profession, it would be backed up by much more influence, and there would be a greater likelihood of obtaining the object desired. This programme had been faithfully carried out, and the Council had gone so far as to draft the general outlines of a Bill. The admissions to the Licentiateship had been in progress for nearly twelve months, and during this time some 1,200 Licentiates had been elected. The profession, however, had been somewhat slow at first to realise the advantages of the new class, and applications had been rather late in coming in. In the last few months, however, things had changed, and quite a rush had set in : men seemed to realise that the doors were being closed, and that if they intended to come in they must do so at once. It was felt by the Council that if they closed the doors now a considerable number of desirable men would be shut out. Therefore, the Council proposed, with the permission of the Institute, to extend the time until the end of the present year. That, he thought, would be long enough for everybody. He had, next, a delicate matter to refer to, though he could not at the moment enter into particulars. The Council had a special reason for desiring the extension of time proposed; they had before them a scheme for bringing in to the Institute a very large number of men, and thus getting rid of a good deal of the opposition that might be encountered in bringing forward their Bill. If the meeting agreed to the extension of time asked for, the scheme he referred to could be carried through, and would be the means of adding to the Institute at least another thousand members—and very desirable members too. He believed what was proposed was for the good of the whole profession, and would be to the advantage of the Institute. The profession would then be much more united than at present, and Heaven knew it wanted uniting, for often they were at cross purposes and apt to consult their own personal convenience rather than the general good of the whole

body. He therefore appealed to the Meeting to grant the extra time to enable them to increase the strength and influence of the Institute, and also to complete the scheme which the Council had under consideration.

Mr. A. W. S. Cross [*F.*] seconded the resolution.

Mr. J. Nixon Horsfield [*A.*] proposed as an amendment that the time should be extended until the 23rd March 1913. A year seemed a long time to look forward to, but was none too much considering that the appeal was being made to architects all over the British Empire. He felt sure that the time asked for would be found insufficient, and he hoped that the extension he proposed would be granted.

Mr. George Hubbard, F.S.A. [*F.*], said that in order that the matter might be discussed he would second the amendment.

Mr. Herbert Shepherd [*A.*], rising on a point of order, asked the President's ruling as to the quorum necessary under the By-laws before the Meeting could deal with a resolution of this kind.

The President said that it had been foreseen that the question might be raised, and the Institute Solicitor's opinion had been obtained on the point. They were advised that the By-law quorum was not necessary, and that the resolution could be dealt with on the ordinary quorum of thirty subscribing members.

Mr. W. Henry White [*F.*] deprecated the further extension of time proposed by the amendment. The matter would go out to the profession with greater urgency if a shorter rather than a longer time were arranged.

Mr. F. R. Hiorns [*A.*] said he could not see that any good reason had been shown for the extension of time asked for. He had looked up the earlier numbers of the Journal containing the reports of the discussions when the subject was originally brought forward, and it was quite clear from those reports that it was the definite intention of the Institute at that time that the privilege should only exist for twelve months, and that the decision of members was given on that perfectly clear and definite understanding. [In support of his contention the speaker read several passages from the reports in question—quoting from the meetings of 3rd April 1906 and 2nd July and 2nd December 1907.] He could not see why the time should be extended. The matter had been made known in the architectural journals and in various other ways ever since the year 1906, so that everybody who was interested had been given an opportunity of applying for admission. If they had not availed themselves of the privilege, they had only themselves to thank. If a man would not take advantage of a twelvemonths' period, he was none the more likely to take advantage of eighteen months or two years. He did not think it fair to members of the Institute, when the matter had been decided upon after a full discussion extending over some years, and a decision come to on a clear and definite proposal and principle, that any attempt should now be made to get the period extended.

The President pointed out that the Council were not considering so much the individuals whom Mr. Hiorns spoke of, but rather the point of view of the Institute in getting those men in. It was to the Institute's advantage to get them in. The Charter gave power to extend the time, so that it was clearly the intention to provide for contingencies. Members had now the opportunity of expressing their opinion as to whether a large-minded policy would be to the greater advantage of the Institute and of the whole profession.

Mr. Hiorns explained that his point was, not that the Institute had not the power to do what was proposed; he admitted that the portion of Clause 1 referred to might bear that interpretation. But its being in the Charter at all went contrary to the definite undertaking given to members at the time their consent was obtained to the proposals. It was this aspect of the question against which he protested.

Mr. Edwin T. Hall [*F.*] observed that the President had very clearly explained that there were circumstances which led the Council to think that it was desirable that the date should be extended. It was in the interests of the Institute and of the profession as a whole that it should be so, because of the broader question of the interests of architecture in England, so that the Institute should be able to speak on behalf of practically all the *bona fide* architects of the United Kingdom. Many people in the country had never heard of the Institute's consideration for outside architects. He had had letters from all parts of Great Britain showing that there were practising architects who knew nothing about the new class. Fortunately it had now become known all over the country, and architects were seeking to come in, in order to strengthen the great central body which spoke on behalf of architecture in England. He hoped the Meeting would carry out the idea which was adumbrated in the Charter, of giving a little longer time to bring about a result so highly desirable.

Mr. G. A. T. Middleton [*A.*] said he thought that all would recognise, from what had taken place many times previously, that much could be said as to why the Licentiate class should close down now. He himself would say so if he did not think there were extremely weighty reasons on the other side. But the Council's proposal had very great weight indeed behind it. He would state one or two reasons, first, why there should be any extension at all, and secondly why the extension should be, if possible, rather more than the period which the Council had named. That there should be an extension at all seemed essential. There had been many applications, and it had been known that applications should be made by the 23rd of March, or that elections could take place until then. But somehow, people in the country, particularly provincial men, had come to the belief that that was the date up to which applications could be received. Really it was necessary that applications should be made some weeks in advance, so that each application could be considered by the Council, and, if suitable, passed through. Since the 2nd of March, when applications stopped, he had had two people ask him to nominate them whom he wished to nominate. And if that happened in one case, it probably would happen in many others. He thought there was a strong argument for keeping the date open for, at any rate, a short period, such as that proposed by the Council. The President had hinted at something bigger, something of which he, the speaker, knew a little; and he could only say that he felt sure the longer time would be very advantageous. What the President was thinking of might be carried through by the end of the year, but the plans of the Council would be much easier if a prolongation were granted. But he thought the two years now proposed seemed overlong, just as the 31st December 1911 seemed over-short. He suggested that June 1912 would be sufficient for all practical purposes.

Mr. Horsfield: If it will simplify matters and my seconder agrees, I will alter my amendment so as to extend the period to the end of June 1912.

Mr. Hubbard agreed.

Mr. Shepherd questioned whether the amendment could be put into the resolution, because the Meeting was a Special General one called to discuss the wording of a particular resolution.

The President replied that the Meeting had assembled to discuss the resolution, and, if it saw fit, to adopt it. It was equally open to it to amend the reso-

lution. He therefore ruled that the Meeting could amend the resolution if it wished.

The amendment was then put as follows: "That under clause 1 of the Supplemental Charter, 1908, the Council be authorised to continue to elect Licentiates to the Institute until the end of June 1912." On counting, it was found that 32 were in favour, 9 against, and the Chairman declared the amendment carried.

Mr. SATCHELL suggested that, in order to save questions arising at a future date, the Council in issuing the resolution should specify the date up to which applications were receivable.

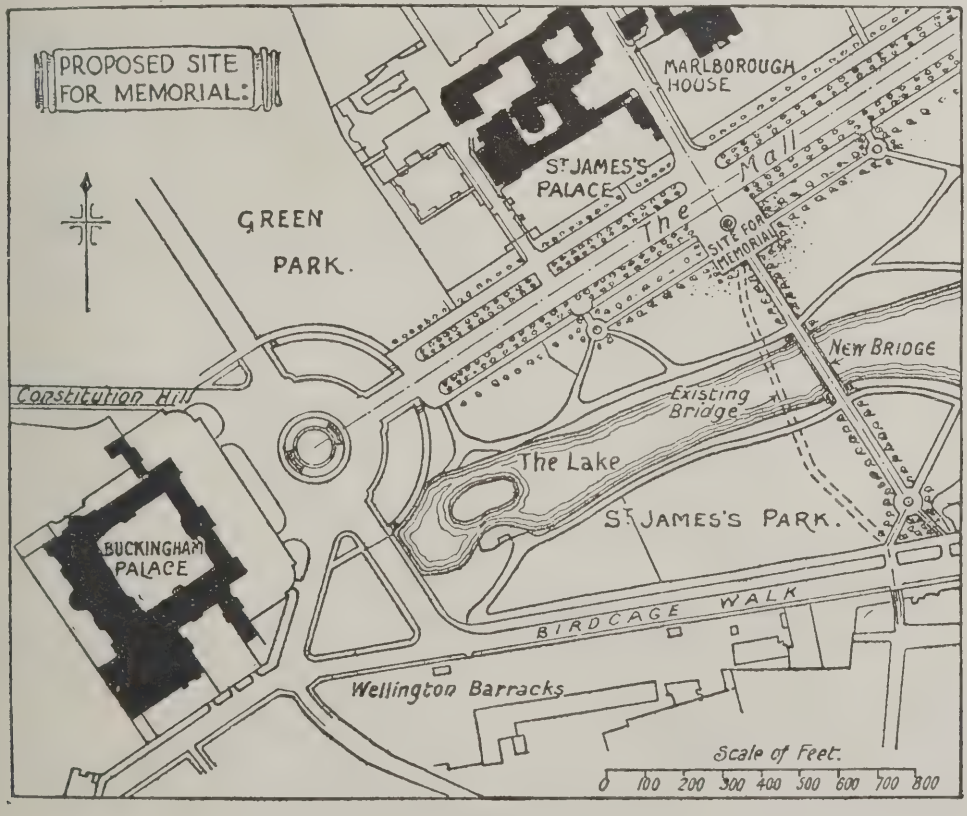
THE PRESIDENT agreed that that should be done, and the amended resolution being put as the substantive motion was carried by the same majority.

In answer to a question the President stated that 1,200 Licentiates had already been admitted, and there were a number whose applications had not been dealt with because of a misunderstanding as to date. Quite an appreciable percentage of candidates had been rejected.

THE CHAIRMAN having announced that the Resolution passed that evening would be brought before the General Meeting of the 10th April for confirmation, the proceedings terminated.

The London Memorial to King Edward.

The site proposed for the King Edward Memorial in London is in the Mall, directly opposite Marlborough House, and the scheme includes, besides a bronze statue of the King, the demolition of the present bridge across the lake in St. James's Park and the erection of a more ornamental bridge, to which King Edward's name will probably be given. The King and Queen Alexandra have approved of the site. The sculptor selected by the committee for the work is Mr. Bertram Mackennal, A.R.A., who has submitted some rough ideas to them as to its form. He contemplates illustrating the great aim of King Edward's reign by erecting a large seated figure of Peace, with appropriate symbols. On each side of the super-base will be two processional groups, comprising eight or nine figures delineating the "Arts of Peace" and advancing towards the central figure. On the super-base will be erected a centre pedestal, on which a bronze statue of King Edward in Garter robes—14 feet high—will be placed. The height of the entire memorial will be from 45 feet to 50 feet. At the back of the pedestal, facing the park, a figure of Britannia will balance that of Peace. A flight of steps will connect the memorial on the park side with the avenue between it and the bridge. Mr. Edward Lutyens is the architect selected to design and carry out the bridge and other features of the scheme, which will include paved terraces, with balustrades, vases, and stone seats. The estimated cost of the central monument is £30,000 and of the bridge £20,000. The time suggested for the completion of the work is five years.



KING EDWARD MEMORIAL: PROPOSED SITE.

St. James's Park Alteration.

Mr. Dudley Ward, representing the First Commissioner of Works, in answer to a question in the House of Commons, stated that he had the fullest authority for saying that no proposal to make a roadway and a bridge for vehicular traffic across the water in St. James's Park had ever been put forward, much less considered, in connection with the King Edward Memorial. The First Commissioner would not for a moment consent to such a scheme, which would be exceedingly detrimental to the amenities of the Park. The suggestion of the Executive Committee was that a statue of King Edward VII. should be placed on the south side of the Mall, immediately opposite Marlborough Gate; that such rearrangement of the formation of the ground as should be necessary for the surroundings of the statue would be carried out; and that, in order to give a vista of the statue from the south side of the Park in Birdcage Walk, a footpath should be made, which would be carried over the lake on a stone bridge, which would only be of sufficient height to admit of the passage of boats beneath it, and would thus form a distinct improvement upon the present suspension bridge, which, however practicable for the purpose, could hardly be said to be otherwise than detrimental to the surrounding scenery.—Replying to Lord Balcarres, Mr. Dudley Ward undertook that no step in the matter should be entered upon by the Department till the plans had been submitted and an expression of opinion elicited from the House.

A New London Museum.

The King has appointed Mr. Harcourt, Viscount Esher, and the First Commissioner of Works for the time being to be Trustees of the projected London Museum. His Majesty has graciously placed the State Apartments of Kensington Palace temporarily at the disposal of the Trustees for the exhibition of the collections already and hereafter to be acquired. It is hoped eventually to obtain some permanent and suitable building in which the Museum can be housed. The King and Queen and Queen Alexandra have promised a loan of some objects of London interest to the Museum. Mr. Guy Francis Laking has been appointed Keeper and Secretary to the Trustees.

The Trustees, in an appeal to the public to make contributions to the Museum by way of gift or loan, give the following particulars of the scheme:—

We have received from a generous donor, who desires to remain anonymous, a sum which enables us to lay the foundations of a Museum on the lines of the Musée Carnavalet in Paris.

We have already secured as a nucleus the Hilton-Price Collection of London Antiquities. This fine collection contains specimens of the Stone and Bronze Ages, of the Roman period, of Samian ware vessels imported during the first and second centuries from the south of France, English pottery ranging from Norman times to the last century, English tiles and many pewter vessels and plates, mediæval glass, and interesting articles of domestic use; Tudor cloth caps found in the London Ditch, leather work, spear and lance heads, stirrups and spurs, ink horns of mediæval date, bankers' scales, coins and tokens and lead crosses from the burial pits on the site of Christ's Hospital, and an infinite variety of other articles of local interest.

Her Majesty Queen Alexandra, who always had the creation of such a Museum much at heart, and to whose encouragement its inception is largely due, has graciously lent many objects of the greatest interest, including valuable relics of Queen Victoria and King Edward, which cannot fail greatly to enhance the importance of the collection to the public.

We wish to acquire objects of historic and local interest to Londoners, and to exhibit many things which would find no place at the British or the Victoria and Albert Museums, but which, nevertheless, are of value and cannot fail to appeal to Londoners and visitors to the metropolis.

We are anxious to obtain specimens of Bow pottery, of Chelsea, of Battersea enamels, and, indeed, of all the famous London manufactures.

We have received promises of prints, drawings, pictures, and books relating to London and the life of its inhabitants.

Proposed Reorganisation of the Royal College of Art.

The following memorial, signed by the President of the Royal Academy and most of the R.A.'s, including the architects Messrs. John Belcher, T. G. Jackson, R. Norman Shaw, and Ernest George, has been submitted to the Prime Minister:—

We, the undersigned, understanding that a Departmental Committee is now considering the constitution of the Royal College of Art and its relations with the art schools of the country, respectfully urge:—

1. That before any scheme for reorganising the Royal College of Art is proceeded with which would affect its present constitution or its relation to national art education, a Royal Commission should be appointed to take into consideration the co-ordination of the methods of art education pursued by different bodies, aided by public funds or otherwise, throughout the country.

2. That the educational purpose of the national collection of art treasures in the Victoria and Albert Museum is in danger of being forgotten.

This collection was begun in 1851 at the instance of the late Prince Consort, as an adjunct to the School of Design (now the Royal College of Art), in order that students, while being trained in accuracy both of hand and eye, should be within easy reach of treasures of art which would cultivate their taste and stimulate their own sense of design.

The Museum now contains a collection of examples of the finest periods of art which no other country in the world can equal. The advantages which the Royal College of Art enjoys are therefore unique, and the existing close connection between the College and the Museum should be strengthened by every possible means.

3. That since, as is well known, British manufacturers no longer enjoy that superiority in machinery which almost amounted to monopoly during the middle

part of the last century, and that other countries are now as well equipped in this respect as we are, success must, in future, mainly depend upon the tasteful use to which machinery can be put.

4. That in view of the great developments in industrial art and industrial art institutions in the United States of America, Germany and other foreign countries, as well as in British Colonies, since the death of the late Prince Consort, the whole question of art education has now reached a stage at which it is imperative, in the interests of the nation, that it should be dealt with by a comprehensive inquiry conducted by Royal Commission.

Whitgift Hospital, Croydon.

The Whitgift Hospital Preservation Committee have instructed Dr. William Martin, F.S.A., to represent them at an inquiry to be held by Mr. R. H. Bicknell, for the Local Government Board, into an application made by the Croydon Borough Council for compulsory powers to acquire some property at North End for a widening of the roadway on its east side. The Borough Council's scheme would result in the bringing of the new frontage line to a point so near to the flank of the almshouses as, in the Preservation Committee's opinion, will threaten the existence of the old buildings. It is understood that one of the new suburban roads suggested by the London Traffic Department, Board of Trade, in their third annual report which has just been issued, consists of a " by-pass " to relieve the traffic on the main road through Croydon to Brighton by means of a loop diverging at Norbury, passing through Waddon to the west of Croydon, and re-entering the high road at a point near Purley Downs.

The Northamptonshire Association of Architects.

A new Architectural Society has been formed for the County of Northampton, to be called the Northamptonshire Association of Architects. The members consist of two classes—viz. *Members*, who must be architects practising in the town and county, and *Associates*, consisting of architects' assistants and pupils. The objects of the Association are to promote the general advancement of architecture and the arts and sciences relating to architecture ; and the business of the Session will include visits to buildings, the reading of papers, lectures, and discussions, and social amenities. Mr. J. Alfred Gotch, F.S.A. [*F.*], of Kettering, has been elected President. The Secretary is Mr. Herbert Norman, Woodhill, Northampton.

The late Sir Caspar Purdon Clarke, C.I.E., F.S.A. [*F.*].

Sir Caspar Purdon Clarke, whose death occurred on the 29th March, had been a Fellow of the Institute since 1888. He was born in 1846, and belonged to an English family that had been for some time settled in Ireland. He was educated partly in England and afterwards in France. In 1865, when architectural student at the National Art Training School, he was awarded the National Medallion for Architectural design. In 1867 he was appointed to a position in the Works Department, South Kensington Museum. In the early 'seventies he went to Persia as superintendent of H.M. Works and carried out several buildings there. He afterwards travelled in Italy, Greece, Syria, Turkey, America, and India. He was architect of the pavilion of the exhibit of the late King (then Prince of Wales) at the Paris Exhibition of 1878 ; of extensions at the Students' Home, Kensington Gore ; the Indian Pavilion at Sir Thomas Brassey's ; St. Cuthbert's Church, Cotherstone, Yorkshire. He designed the decorations at Durham Villas, Kensington, for Mr. W. Gale, and at Hampstead for Mr. Carl Haag. In conjunction with the late Professor Hayter Lewis he read a Paper on Persian Architecture and Construction before the Institute on the 31st January 1881. In 1883 he was awarded the Society of Arts Silver Medal for a Paper on " Indian Street Architecture." Further details of his career are given in the following extract from *The Times* of the 30th ult. :—

Educated partly in England and afterwards in France, Sir Caspar Purdon Clarke began his artistic career in the Art School at South Kensington, where he was later destined to occupy so prominent a post. Trained as an architect, he filled various subordinate posts under Government, at the Houses of Parliament and also at the South Kensington Museum, but his personal tastes seem always to have been attracted towards the East. He held several commissions for collecting works of art in the East for the Museum, and represented the commercial side of the Indian Government at the great Paris Exhibition in 1878.

His first definite appointment in the Museum where he worked was in 1880, when the India Office handed over to the Museum the vast collections of modern Indian art that had long been shown in one of the endless galleries fringing the Exhibition Road. Here, as Keeper of these collections, Clarke found a congenial field, and the first arrangement of the galleries was due to his very wide knowledge of the arts of the East. His success here led to his appointment later to the charge of the entire art side of the institution, and ultimately in 1896 he was appointed Director, and held the post until, on the approach of his sixtieth birthday, the opportunity arose for him to succeed Major Cesnola at the Metropolitan Museum in New York. Whether or no this was a wise step on his part may be questioned, but the difference between the fairly generous salary in New York and an exiguous pension at home probably had great weight with him. The four years he spent in New York were distinctly beneficial to the Museum there, and he was very popular, both in the Museum itself and in society at large. But there can be little doubt that the strain caused by novel surroundings in a very different climate and at an age when the constitution has ceased to have the spring of youth had a very exhausting effect on his health. After about four years of constant work it was evident that he would be forced to take a rest, and he came to England, and to some extent recovered ; but serious organic troubles developed, and it was known to his friends for some time past that recovery was hopeless.

Purdon Clarke will certainly leave a golden record for geniality and good-fellowship. He possessed immense energy and a great knowledge of the technical side of Oriental arts and crafts; on these and on a host of other subjects he constantly lectured, and nothing pleased him more than to gather an intelligent group of friendly critics around his newly arranged or newly acquired treasures. His energies were by no means confined to his official duties. The display of the late King's Oriental arms and other treasures from the East was entrusted to him and rewarded by a C.V.O.; he was constantly engaged in the plans of the many exhibitions that have been held in London during the last quarter of a century; he built Alexandra House for students of music at the Albert Hall, and was often named as delegate or commissioner at exhibitions abroad, such as Vienna, Paris, and St. Louis. On missions of this kind he entered warmly into the plans of the English exhibitors, and was deservedly popular both with them and with his foreign colleagues. In point of fact, he probably showed to greater advantage in business of this kind than in the more humdrum affairs of a museum where the restrictions imposed by the higher powers were often more than irksome.

He took a keen interest in the progress of the Victoria and Albert Museum after his connection with it had ceased, and although in feeble health at the time was able to attend the opening ceremony. The new arrangements and the new departure in that institution could hardly fail to be of importance in his mind, for we have authority for saying that a great part of the scheme of administration of the reorganised Museum was the product of his brain. That it should be so, and that the scheme was of such a practical nature as to commend itself to his official chiefs, is in itself a tribute to his capacity. Clarke himself had what may be called a technical training rather than a strictly artistic one, and it is perhaps only natural that his leanings, in the great rearrangement at South Kensington, should be on the side of the hand-to-mouth needs of the craftsman. But it cannot be doubted that to reduce the influence of the finest collection of works of art to that required by the mere craftsman was a retrograde step, strongly at variance with the convictions of every other European country—substituting as it does imitation of ancient art for the inspiration that should be the natural fruit of an art museum. It is unlikely that Sir Purdon Clarke was entirely responsible for this. It is almost certain, in fact, that he took a wider view of the function of a museum of art. Those who knew him well would certainly say so, and his friends are many. He was essentially a well-liked man, both by his subordinates and by the general public, and all who met him will regret that he did not live longer to enjoy the repose he had so well deserved.

Sir Caspar Purdon Clarke was knighted in 1902; he had received the C.I.E. as far back as 1883.

CORRESPONDENCE.

Mr. Gotch's Inigo Jones.

To the Editor JOURNAL R.I.B.A.,—

SIR,—I recall once asking a well-known architect, now retired, his opinion of Inigo Jones and receiving the unexpected reply that "he had seen a good many heavy buildings attributed to him about the country." Mr. Gotch, however, has gone beyond this amusing critique, and, in addition to Mr. Weaver's excellent caution to eminent architects, I should like to add the further one to appoint by name forthwith a literary and artistic executor. I am brought to this by having to-day cleared out and put away the drawings of a job I have hitherto fancied my own, but the sight of the rough and disjointed memoranda and incomplete originals has fairly staggered me when I remember the tracings &c. that finally reached the builder.—Your obedient servant,

FELLOW.

Architectural Copyright.

Kensington, 21st March 1911.

To the Editor JOURNAL R.I.B.A.,—

SIR,—I should like to admit at the outset that I have not had the pleasure of perusing the draft of the Copyright Bill, but I gather from the evidence that was laid before the Institute and from the many cases that have been decided in the Continental Courts, that its object or objects is to place architects in England in the same legal position in this respect that architects possess or enjoy on the Continent. Up to the present, architects appear to possess no legal estate in the realm; the profession itself having no defined status, the right to a definite scale of charges is, I suppose, more or less problematical; and when the profession is about to be offered a free gift in the shape of a legal right in, a legal estate to, its own architectural ideas and productions, its own designs, it proceeds to accept the offer in the most provincial manner possible. It proceeds to look the gift horse in the mouth, to question its age and antecedents. If under the Bill architects will be placed in the same position as sculptors and painters and possess similar rights the sooner it passes the third reading the better.

Up to the present, architects appear to have had nothing but responsibilities thrown upon them by decisions in the Law Courts. Every five years I think it may very truthfully be said that an architect has to almost relearn his profession, so great is the flux of thought in the building world, the introduction of ferro-concrete being the last radio-active microbe to destroy the peace of mind of the practitioner. Then again the decisions against architects when departures from the specification have been made, although fully allowed for in the settlement, also when they have purposely been made by a defaulting contractor, with or without the collusion of a clerk of the works, must cause that slender foundation of five per cent. upon which they are built to give way, and call for a complete revision of the legal liabilities of architects. Architects have got to pull together and to present the front of a Roman phalanx to the enemy.

Then again if the copyright to a work of art is to be ours, what about the right to sign it? Has this right been included in the Bill? I was

once putting up a building facing Kensington Gardens, which possesses the distinguishing feature of a gold frieze and a few winged lions at the angles, when the brick carver inquired where he should sign my name. I indicated a block in the west corner where it could be unobtrusively inscribed, but it fell out that when the carver proceeded to carve it the building owner appeared on the scene, and being informed of his instructions replied, "If you carve it in, I will have it carved out," claiming the architecture, I presume, as well as the building.

Therefore I think that when a definite interest is going to be given us in the legal estate of the realm, the first of many to follow, the sooner we get it into a practical working shape and accept it the better.—Yours faithfully,

A Fellow.

P.S.—Permit me to add to the foregoing that I know a sculptor, an Academician, who has, I believe, more than once perceived the greater commercial value in a copyright than in the original, and at a guess in one instance, a small bust, must have disposed of some twenty replicas. Proceeding upon parallel lines, architects will be at liberty to withhold in their charges or agreements the value of a copyright should they perceive in their designs any vista of value which may be turned to immediate or future account. And in this respect it is just possible for the Committee of Practice when submitting to the Institute their proposals for the revision of the existing Scale of Charges to include a paragraph to the effect "That the Scale of Architectural Charges does not include or carry with it the right to the architectural copyright in a design unless an arrangement has been agreed upon between the client and the architect including such copyright."

Some Aspects of Trade Unionism and the Possibilities of their Application to the Architectural Profession.

To the Editor Journal R.I.B.A.,—

Sir,—The repugnance with which Trade Unionism, or any of the ideas associated with it, is held by the majority of the architectural profession is due to the prejudice excited by many of the unreasonable incidents we meet with in daily practice, particularly in relation to the separating lines which define the work governed by one trade union from that of another, the lack of recognition of the merit of individual craftsmanship which the main and guiding principle of trade unionism involves, and, in addition, the attitude of persistent hostility which trade unions maintain towards employers—carried so far, in many cases, as to exclude any of the latter who may be in sympathy with the objects of trade-union organisation.

These various objections sum up the current ideas prevalent among us in relation to trade unionism, which are held more usually upon unreasonable premises and not as the result of any careful analysis of the various factors which enter into and decide the case.

That there are, however, some useful practical matters, in the direction of mutual help and assistance, successfully dealt with by trade unions is generally admitted. The query then presents itself as to the possibility of the adoption of some of those phases of trade unionism which may give equally practical and beneficial results to our own profession. A brief examination of some of the main points of trade-union organisation may not be valueless to those who have not fully appreciated the issues involved and considered them in relation to ourselves.

To begin with, the hostility to the employer has its origin, as, indeed, the whole question of the relationship of labour to capital, in the atmosphere created by present-day commercialism and the ideas associated with it. Unfortunately for us, who desire to see the best work done under the best conditions and at a proper rate of remuneration to the good craftsman, the primary feature of the matter to the employer, as representing a class, is that of profit, and the main point is to secure a standard of craftsmanship which will not vitiate this primary feature by any unnecessary calls during a contract period of maintenance, or cause any disaffection with the principals involved, with ultimate detriment to future business.

We see, then, that our logical view of the relations of labour to capital becomes extremely simplified when the necessary modifications of that relationship, which vary considerably in strength in different cases, are duly allowed for; apart from these we are left with the spectacle of an undignified struggle for profit on both sides, hence the necessity for hostility if one factor is to succeed and the other is to be vanquished. That hostility on the part of trade unions has been justified is shown to be the case by the fact that the most well-organised trade unions have usually secured the best conditions of labour for their members consistent with the prevailing conditions of trade.

This general and main position of trade unionism obviously presents no practical lesson for us (except to tell us what to avoid) on the same plane, but it undoubtedly does so in certain other directions. It has no bearing upon the architect's assistant, for the continued fluctuations constantly occurring in many cases between the position of assistant and principal, combined with the prevailing view that the assistant occupies a probationary stage in our profession, would immediately render any sectarian proposal to organise the assistant entirely futile, for we should be striving to produce the pleasing study of an organisation at enmity with itself.

From another point of view, the hostility of the trade union has served as an important check to the encroachments of unscrupulous employers, re-

sulting in the general tendency to raise the conditions of labour of the worst employers to the level of those of the best. This lesson is not useless to us, for, regretting as we must the fact that there are unscrupulous men among us, it is evident that we must protect ourselves and our profession against them. The proposed Registration Bill is to make this endeavour in the interests, let us hope, of all classes of the profession, and it would appear only a reasonable proposition that the practitioner is not only to be protected in his present capacity against doubtful competitors, not amenable to any high ideals of professional honour, but also in his probationary stage of assistant, when protection is just as imperative and should appeal to all with the same force.

The many unreasonable quarrels and losses incurred to the building trade on the question of settlement of the lines of demarcation between the areas of labour allotted to different trades must be judged by close examination of the interests involved in particular disputes, and, where no valid reasons appear to exist to the impartial mind, they are often found to be due to the ignorance and intolerance of the trade unionists immediately involved. Again, this matter has no bearing on our profession, for the architect's assistant has been singularly lax in many directions and nonchalantly allowed a large amount of work, which might have been his, to go outside the profession into the hands of the "specialist."

Lack of recognition of the merit of the individual craftsman on the weekly pay-sheet is a matter which causes some practical difficulty to trade unions and is usually settled by the better craftsman being more often selected and the poorer man being subject to a greater amount of unemployment. Trade Unionists maintain this position in spite of its obvious disadvantages because they have drawn the conclusion, from their experience, that the commercial value of excellent work is of less account to them than the maintenance of as high a standard of wage as possible. This conclusion has been forced upon them by the fact that the primary object of production is profit and the less skilful worker is found to be able to produce a result as satisfactory to this primary object as his better-equipped and more carefully trained colleague.

Subject to all the modifications enumerated above in dealing with the hostile position of the trade union to the employer, this general conclusion clearly shows that, if thoroughly good work is demanded, the inspiration must come from the employer and his principals, and even then we discover a point which appears to confirm this repugnant item of trade unionism in the fact that the craftsman engaged on such work is usually outside any trade union and actually receives less recompense than his trade-union confrère performing less onerous tasks. If the trade unions pay slight attention to skilled work, the employer also displays little anxiety to do so.

There are other important matters in relation to trade organisation of which there can be no doubt of the benefits involved to all parties concerned. To begin with, most trade unions publish monthly reports showing the conditions of trade in all parts of the country, and also a list of firms to be avoided. One or two trade unions also supply a list of doubtful workmen for the information of all. Employment bureaux and insurance against unemployment figure largely in the trade-union balance sheets, also a fund for Parliamentary action. In our profession we are supplying the latter and trust to see our machinery in successful action at an early date, and, if our wishes are fulfilled, it will be unnecessary to tear a leaf from the monthly reports of the trade unions in respect of publishing a list of undisciplined practitioners. The Employment Register of the Royal Institute and the Allied Societies could easily be developed in the direction of classifying assistants in accordance with their age, qualifications, and experience, so that when a principal desires an assistant the process of selection would be easier and more satisfactory than at present. The proper development and advertisement of the Register, backed as it is by the increasing membership of the Royal Institute, should render it the only channel by which employment can be obtained, instead of continuing the laxity which now reigns over this important institution.

Unemployment insurance for assistants, a matter over which the writer has given much time and labour, would easily take a successful place in our profession, and only awaits proper advertisement and consideration to become a very beneficial means of mutual assistance.

The writer trusts that the views he has expressed will induce others to adopt a broader outlook on the trade-union question, and, in general, it appears unreasonable to him to allow certain prejudices, however well-grounded they may be, to outweigh the due consideration of certain practical proposals which are interwoven with them and have been in successful operation for many years, and which, if adopted by us, would bring into being a series of measures directly or indirectly benefiting the entire profession.—Yours faithfully,

E. J. Dixon [*A.*].

The volume of Transactions of the Town Planning Conference, held in London under the auspices of the Royal Institute in the month of October last, is now ready and will be issued in a few days. The work comprises 850 pages, and includes over 300 illustrations. Special copies, bound in buckram, will be on sale at the offices of the Royal Institute, at the price of 28*s.* net.

Count Plunkett [*Hon. A.*] has for the second time been appointed a Vice-President of the Royal Irish Academy.

ALLIED SOCIETIES.

Leeds and Yorkshire Architectural Society.—At a General Meeting of this Society, held on the 9th March, when the President, Mr. Sydney D. Kitson, F.S.A. [*F.*], occupied the chair, Mr. W. H. Ward [*A.*] read a paper on "The Renaissance Church Architecture of the Sixteenth Century in France." It was a commonplace, he said, that the history of architecture was in most countries and ages the history of religious architecture. In the Middle Ages if church architecture were eliminated nothing coherent, or indeed very important, would be left. But at the time of the Renaissance, Western Europe had largely outgrown the tutelage of the Church, the idea of nationality was developing, and in England, Spain, and France the focus of national life was becoming a strong centralised monarchy. The architectural expression of this state of affairs was to be found, therefore, in secular building, and more particularly in the dwellings of the Sovereign and his Court. The architecture of France in the sixteenth century was essentially an architecture of châteaux, of the pleasure-houses of a still half-feudal aristocracy. Thus, it was much more difficult to present a picture of church architecture of this period than of contemporary secular architecture, and excepting a short list of approximately complete buildings, a history of the style must be compiled chiefly from additions and embellishments to Gothic churches—here a chapel, there a transept, elsewhere a vault or a portal, a tomb, a screen, or a reredos. St. Eustache, Paris, begun in 1532, was the largest and completest Renaissance church of the century in France, and although practically identical in plan with Notre-Dame, it was designed, as a whole, from the first as a Renaissance building, its Gothic features being clothed with detail inspired from Italian sources. The lecturer broadly analysed and compared the various parts of this church with contemporary examples elsewhere, and by means of a series of some sixty slides traced the gradual spread of Renaissance ideas, first in the detail and later in the general design, over the ecclesiastical architecture of France. On the motion of Mr. W. H. Thorp [*F.*] a hearty vote of thanks was accorded Mr. Ward for his paper.

Glasgow Institute of Architects.—At a recent meeting of this Institute Mr. W. T. Oldrieve [*F.*], of H.M. Board of Works, Edinburgh, read a paper entitled "Glasgow Cathedral Roof Restoration: its Necessity, Principles, and Methods." Mr. Oldrieve said that many and various had been the definitions of "restorations" as applied to architectural works, and monstrous had been sometimes the results. In many cases original work of great merit was cut away or mutilated to make room for modern work devoid of character. Such a restoration was perpetrated probably about 1735, when the original design of the roof of Glasgow Cathedral was deliberately obliterated by the simple process of hacking away the oak moulded ribs, carved work, and panel boarding in order to substitute the plaster ceiling. The term "restoration" he applied to the present endeavour to ascertain what was the original design; and, so far as they could, to restore it. Mr. Oldrieve outlined the principles upon which the scheme of restoration is based, and described the methods by which these principles are to be applied. He said the principle upon which the new roof had been designed had been to ascertain from a very careful examination of the remains of the old roof every detail which would throw light upon the original work, and to endeavour to follow the guidance thus obtained. Upon the naked timbers being exposed by the removal of the plaster ceiling, diagrams, sketches, and photographs were prepared, and fragments of details which would help to elucidate the problem were carefully noted, all peg-holes being marked and plotted in their correct positions. That originally there was internal boarding was clearly proved because fragments of the actual oak boarding and grooves were found upon some of the principal rafters. One fragment only was found to indicate the character of the moulded principal rafters, and it was carefully measured and drawn full size. From this fragment it was possible to construct the contour of the original mouldings. The greatest surprise of all was to find that the original rafters had been shaped so as to form a trefoil or cusped roof. When they at first examined the roof from the interior space near the ridge it was only possible by the light of a lantern to look down between the outer boarding and the plaster ceiling, and in one or two instances to crawl down into a very limited space so far as anyone could reach. It did not occur to anyone that the uneven shaped timbers were all carefully shaped in order to form the cusped design which was a most unusual, if not unique, form for trussed-rafter type of roof to take in a church of large dimensions. In carrying out the work, firms of high standing as modellers and carvers were invited to submit sketch models and tenders, the result being that the work had been divided between Glasgow and Edinburgh firms. Mr. Oldrieve described the arrangement of the subjects of the roof carvings, and said the leading idea along the ridge from west to east was to be the life of Christ. The choir would have richer carving, not only having bosses at the intersections of the moulded ribs, but angel figures over the main wall shafts with shields bearing the arms of the bishops or other church dignitaries who had had most to do with the cathedral. Intermediately at the wallhead would be shields bearing the Royal arms and crowns of the kings most intimately connected with the cathedral. It was hoped that before the work was completed, means might be found to illuminate heraldically all the shields, and to gild the initial letters and dates, so as to give interest both historically and artistically. So far as purely constructional design was concerned, the object aimed at had been stability; first by relieving the main walls of outward thrust, and then by providing longitudinal rigidity.

MINUTES. X.

At a Special General Meeting summoned by the Council under By-law 65, and held Monday, 20th March 1911, at 8 p.m.—the President, Mr. Leonard Stokes, in the Chair; of those present the names of 23 Fellows (including 14 members of the Council) and 21 Associates entered in the attendance-book:

The Secretary announced that Mr. Edgar Wood [*Associate*, elected 1885] was recommended by the Council for election to Fellowship.

The Chairman, having reminded the Meeting that the period for electing Licentiates expired on the 23rd March, moved that the Council be authorised under Clause 1 of the Supplemental Charter to continue to elect members of that class until the 31st December

1911, and briefly stated the Council's reasons for proposing the extension.

Mr. A. W. S. Cross [*F.*] seconded the resolution.

Mr. J. Nixon Horsfield [*A.*], seconded by Mr. George Hubbard, F.S.A. [*F.*], moved as an amendment that the time be extended till the 23rd March 1913.

A suggestion by Mr. G. A. T. Middleton [*A.*] to extend the period until the end of June 1912 having been accepted by the mover and seconder of the amendment, the proposal was put to the Meeting, and upon a show of hands declared carried—32 voting in its favour, 9 against.

The amendment being put as the substantive motion, it was by the same majority

RESOLVED, that under Clause 1 of the Supplemental Charter of 1908 the Council be authorised to continue to elect Licentiates of the Institute until the end of June 1912.

The Chairman having announced that the Resolution would be brought before the General Body for confirmation on the 10th April, the proceedings closed and the Meeting separated at 8.50 p.m.

At the Eleventh General Meeting (Business) of the Session 1910-11 held Monday, 27th March 1911, at 8 p.m.—the President, Mr. Leonard Stokes, in the Chair; of those present the names of 17 Fellows (including 10 members of the Council), 14 Associates (including 1 member of the Council), and 4 Licentiates entered in the attendance-book—the Minutes of the Special and Ordinary General Meetings held Monday 13th March, having been published in the JOURNAL, were taken as read and confirmed.

The following Licentiates attending for the first time since their election were formally admitted by the President—viz., Thomas Millwood Wilson and Frederick Arthur Cox.

On the motion of the Chairman it was unanimously

RESOLVED, that this Meeting, summoned in accordance with Clause 22 of the Charter, hereby confirms the Resolution passed at the Special General Meeting of the 13th March—viz., "That the Council be authorised to arrange with the Bankers of the Institute for an overdraft of any sum not exceeding £7,000, with interest at the rate of 4½ per cent. on the amount of the overdraft for the time being; and that the Council be authorised to charge such property of the Institute as they may think fit for the purpose of giving security for the said overdraft."

The following candidates for membership were elected by show of hands under By-law 10, viz. :—

As FELLOWS (3).

LUCAS : Thomas Geoffry.
MITCHELL-WITHERS : John Brightmore (Sheffield).
WATKINS : William Henry (Bristol).

As ASSOCIATES (53).

ADAM : Alexander [*S.* 1907] (Glasgow).
BARNISH : Leonard [*S.* 1903] (Liverpool).
BECKETT : Richard Thomas [*Qualified* 1890] (Chester).
BESWICK : William [*S.* 1908] (Chester).
BIRKETT : Stanley [*S.* 1905] (Manchester).
BUNCE : Henry Edgar [*S.* 1908].
BUTT : Charles Frederick [*S.* 1908].
CHAUNDLER : James Hubert [*S.* 1905].
CHAUNDLER : James Herbert [*S.* 1905].
CLOUX : Frank Louis Whitmarsh [*S.* 1906].
COATES : William Victor [*S.* 1908] (Grimsby).
COCKRILL : Kenneth Arthur [*S.* 1908] (Gorleston).
COOMBS : Leslie Douglas [*Special Examination*] (Dunedin), N.Z.
CRAUFORD : William Harold [*S.* 1907].
DAVIS : Philip Wolf [*S.* 1907].
DRYSDALE : George [*Special Examination*].
EVANS : Thomas Glynne [*S.* 1908] (Liverpool).
GLANFIELD : Ernest Budge [*Special Examination*].
HALL : Edwin Stanley, M.A.Oxon [*S.* 1907].
HATHAWAY : Percy William [*Special Examination*] (Rochdale).
HETT : Leonard Keir [*S.* 1909].
HIGGINS : William Thomas [*S.* 1906] (Stony Stratford).
HODGES : Claude Vivian [*S.* 1905] (West Bromwich).
HUGHES : Thomas Harold [*S.* 1909] (Aberdeen).
HULBERT : Francis Seymour, B.A. Cantab [*S.* 1909].
JONES : Cyril Montagu [*S.* 1906].
KIPPS : Percy Kingsford [*S.* 1906].
LODGE : Thomas Arthur, Jun. [*S.* 1909].
LYON : Maurice, B.A. [*S.* 1907].
MANSFIELD : Leslie [*S.* 1908].
MARTIN : John Gray [*S.* 1906] (Oldham).
MATHESON : Kenneth William [*S.* 1904].
MATTHEWS : Bernard Frank [*S.* 1909] (Southsea).
MOORE : Ernest Josiah Edwards [*S.* 1906] (Cardiff).
MUNT : Francis Edwin Spencer [*S.* 1906].
PEASCOD : Joseph [*Special Examination*].
PYWELL : William Jackson [*S.* 1907]. (Brighton).
ROBERTSON : Norris Bathgate [*S.* 1908] (Leicester).
SCHOFIELD : John Frank [*S.* 1905].
SHANKS : Norman Fraser [*S.* 1907] (Manchester).
SLATER : John Alan, M.A. Cantab. [*S.* 1908].
SMITH : Frank William [*S.* 1908] (Newark-on-Trent).
SUTTON : Cecil Alfred Leonard [*S.* 1909] (Notts.).
TANNER : Edwin John [*S.* 1909].
THOMPSON : Charles William Ward [*Special Examination*] (Chatham).
TUGWELL : Sydney [*Special Examination*] Bournemouth).
WALKER : Marshall Eyre [*S.* 1907].
WELCH : Herbert Arthur [*S.* 1907].
WELLBURN : George Taylor [*Special Examination*] (Redcar, Yorks.).
WHEATLEY : Joseph Horace Lyneham [*S.* 1906] (Petersfield).
WILSON : Herbert John [*S.* 1905] (Peterborough).
WINCH : Arthur [*S.* 1909] (Leeds).
WRIGHT : Edward Leslie [*S.* 1906] (Cardiff).

Referring to resolutions on the agenda in the name of Mr. T. Fredk. Pennington [*A.*] condemning the action of the assessors in the Gidea Park Town Planning Competition, the President read a report of the Competitions Committee, to whom the matter had been referred, stating that they were of opinion that everything possible had been done by the assessors and promoters to meet Mr. Pennington's case, and that he had no reasonable cause of complaint.

Mr. Pennington then addressed the Meeting, but his resolutions finding no seconder, the next business was proceeded with.

The Chairman announced that Mr. R. Anning Bell's Paper on "Coloured Relief as Decoration" had been postponed from the 10th April to the 22nd May, and Mr. Lawrence Weaver's Paper on Wren's *Parentalia* from the 22nd May to the 26th June.

The proceedings then closed, and the Meeting separated at 8.35.

Photo. H. B. Leighton.

CLARE COLLEGE BRIDGE, CAMBRIDGE.

THE ARCHITECTURE OF CAMBRIDGE.

By W. S. Purchon [*A.*].

Read before the Sheffield Society of Architects and Surveyors at the University of Sheffield, 8th December 1910.

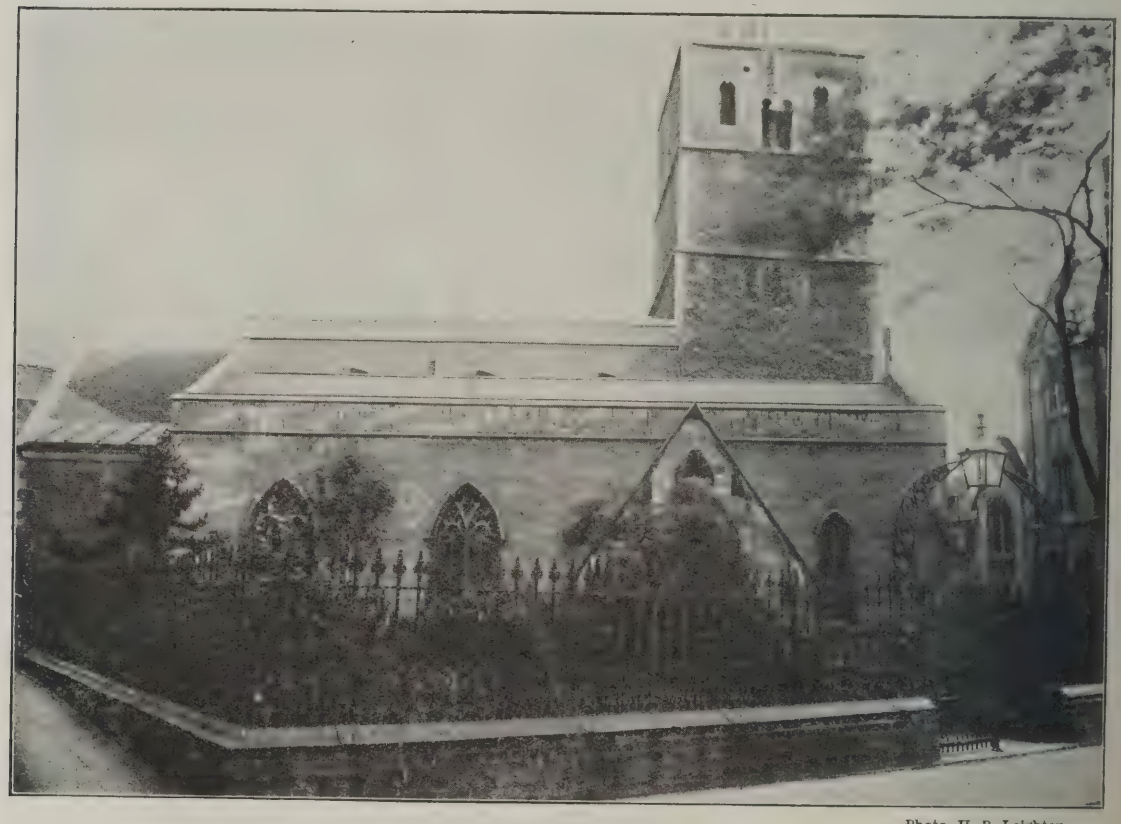
A FEW years after the beginning of the fifteenth century Brunelleschi set out for Rome with his friend Donatello, and for about four years he studied the buildings of the Romans. The influence of this visit it would be difficult to over-estimate. Since Brunelleschi's time there has been a never-ending stream of students of architecture to various sources of inspiration: at one time to the buildings of the Romans, at another to the buildings erected by the architects of the Renaissance in Italy, at yet another to the masterpieces of Greek art, and in more recent times to the cathedrals and churches of the Middle Ages in this and other countries.

At the present time much is being written, and more is being said, on the subject of architectural education, and, as in other educational matters, many widely different views are being presented. But with all these differences of opinion, nearly all, if not all, are agreed on one point—the value of the study of beautiful buildings on the spot. It is true that opinions differ as to the kind of buildings which should be studied; some would limit students to buildings of a particular period, while others advise the study of worthy buildings regardless of period—in fact, it has perhaps been left to the present-day architect to discover that after all there is beauty in buildings of a style other than that in which he designs—while others again, curiously enough, would limit the students to buildings which have not already been adequately measured. In view, then, of this widespread faith in the value of studying worthy buildings, it was thought advisable as soon as possible after the establishment of the Department of Architecture at the University of Sheffield, to arrange a summer course at some place in which beautiful buildings could be studied by means of the making of sketches

and measured drawings. The choice fell on Cambridge, and, as I hope to show, it would have been difficult to find a more suitable place.

I propose to take the buildings in chronological order as far as possible, as this method will show more clearly how completely Cambridge exhibits examples of the various phases of the development of English architecture from Saxon times to the present day. While endeavouring to give my own impressions of the buildings. I must acknowledge the valuable help I have received from the fine Architectural History of the University by Willis and Clarke.

From the station, a quarter of an hour's walk along Station Road, the Hills Road and Lensfield Road— passing the imposing Roman Catholic church (by Hansom, of Newcastle), at the corner—brings one into Trumpington Street, a street of some considerable width and



ST. BENEDICT S, CAMBRIDGE. Photo. H. B. Leighton.

dignity, and about which and its continuations, King's Parade, Trinity Street, and St. John's Street, are grouped most of the University buildings and some of the colleges. At its northern end St. John's Street enters Bridge Street, about which, with its continuations, are grouped other of the colleges, while many of the museums and laboratories are in Pembroke Street and Downing Street, which connect the two other thoroughfares and form with them a triangle. The colleges on the west side of Trumpington Street, King's Parade, &c., are bounded on the west by the river Cam, and the college lawns reaching down to the river, and the various bridges crossing it, form some of the most pleasing of pictures. In fact the "backs," as they are called, are perhaps the most delightful features of Cambridge, and in Oxford one regrets their absence.

To the west of the river are some of the newer colleges—Ridley Hall, Selwyn, and Newnham, while Girton lies at some distance to the north-west.

We will begin with St. Benedict's, the oldest of the Cambridge buildings. The tower, built about 1040, or perhaps earlier, has many of the usual characteristics of Saxon work. It

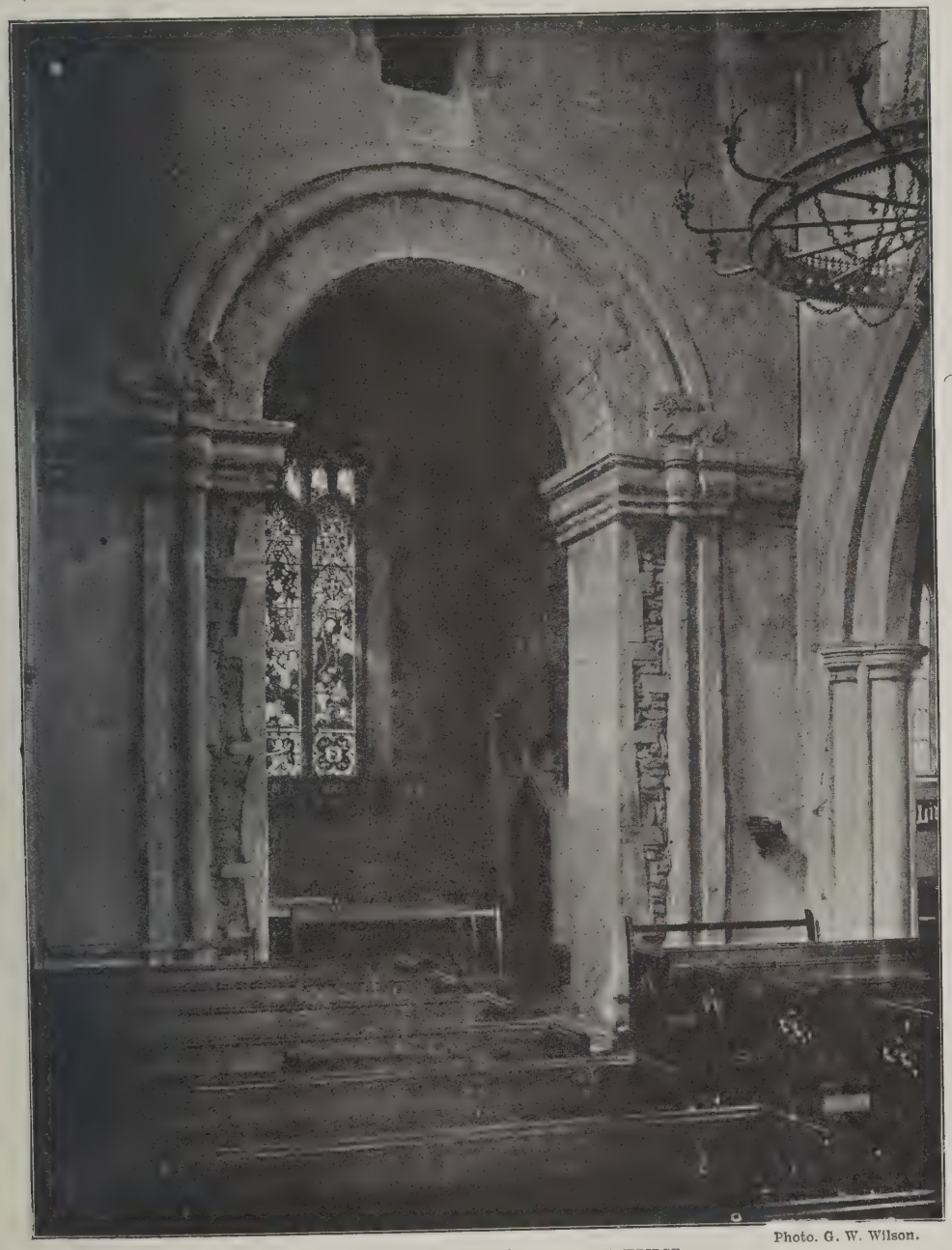


Photo. G. W. Wilson.

SAXON ARCH, ST. BENEDICT'S CHURCH, CAMBRIDGE.

is divided into stages by horizontal string-courses, and is reduced in width at each stage. The principal windows are of two lights divided by the customary baluster shafts, and the quoins are formed with long and short work. The only pilaster strips are those above the windows,

and there are no diagonal strips. The arch from the tower to the nave is also Saxon work. Its impost mouldings suggest a classic entablature with pulvinated frieze; coarse mouldings are carried round the arch and down the jambs, and there are some rather crude sculptures at the springing of the arch moulds. The church is connected with Corpus Christi College by a covered passage, and a chapel was built in the fifteenth century from which the members of Corpus Christi could witness the services. Most of the remainder of the church belongs to the restorations of 1853 and 1872, the latter by Sir Arthur Blomfield.

The Round Church, or Church of the Holy Sepulchre, is a good example of Norman work. It was probably built about 1130, and is perhaps the earliest of the four round churches built by the Templars. Eight massive circular piers separate its circular nave from the aisle and support a triforium and clerestory. In the original church there was probably a semi-circular eastern apse, but this was replaced by a rectangular chancel during the thirteenth century, and further alterations and additions were made in the fifteenth century. In 1841 a vigorous and well-meant, but none the less unfortunate, attempt was made by Salvin to restore the church to its Norman form.

Cambridge is not rich in Early English work, that fine work which may be said to take in mediæval art the place occupied by Greek architecture in the art of the ancient world. The chapel of Jesus College was originally part of a Benedictine nunnery. During the Perpendicular period, when Bishop Alcock converted the nunnery into a college, considerable alterations were made in the chapel, the west end being shortened and the aisles removed. Most of the Early English windows were replaced by Perpendicular ones, a story was added to the central tower, and stalls and a screen were provided. During the eighteenth century the woodwork was taken to Landbeach Church, five miles away, but it has been returned and placed in the ante-chapel. About the middle of last century Salvin was at work rebuilding the north aisle of the choir and inserting a three-light Early English window at the east end in place of the Perpendicular one. As a result of these various alterations much of the old work has disappeared, but there are still some fine Norman windows and arcading in the north transept, and an excellent series of arcaded lancets on the north side of the chancel. About seventeen years ago the doorway of the Chapter House was discovered. It is an extremely beautiful piece of early thirteenth-century work. There is a two-light opening at each side of the doorway, the arches are richly moulded and ornamented with the dog-tooth, detached shafts are used in the jambs, and the capitals are carved with characteristic foliage. In restoring this doorway the mouldings have not been worked on the new stones.

Other examples of Early English work are to be found at St. Clement's Church and the Church of St. Andrew the Less.

The most important example of Decorated work in Cambridge is Little St. Mary's Church, built about the middle of the fourteenth century. It is connected by a gallery with Peterhouse, and for nearly three hundred years was used as the college chapel. The east window, the piscina, sedilia, and the font are particularly noteworthy, and the Jacobean font cover is also of considerable interest.

St. Edward's near the Market Place, and St. Michael's, also contain fourteenth-century features, but both these churches have been considerably restored.

The finest Gothic work in Cambridge is, however, that of the Perpendicular period. The most important of the Cambridge churches is perhaps St. Mary the Great. The main building was erected during the last quarter of the fifteenth century, but the tower was not completed until the early years of the seventeenth. The present west door was designed about sixty years ago, by Sir George Gilbert Scott, to take the place of a Renaissance porch. James Gibbs added galleries to the interior in 1735, and shortly afterwards Burrough constructed in the chancel a remarkable feature, known as the "Throne," and used by the University

officers. This and a huge three-decker pulpit of about the same date were removed in the latter half of the nineteenth century, when the present seats were put in.

ROUND CHURCH, CAMBRIDGE. Photo. G. W. Wilson.

The Church of St. Botolph and Holy Trinity Church are also examples of Perpendicular work, but they have both been restored somewhat extensively.

King's College Chapel is one of the finest examples of a complete building of the Perpendicular period. The building was commenced in 1446, and work proceeded until 1485. In

1508 building operations were resumed, and in 1515 the main building was completed. The main lines of the building are extremely simple. The plan is a simple rectangle, with projecting buttresses taking the thrust of the fan vault, the spaces between the buttresses being almost entirely occupied by the lofty five-light windows. At each corner of the rectangle there is a polygonal turret, reaching some distance above the roof and adding considerably to the verticality of the design. The doorways at the west end and near the western extremity of the south side are very similar in design, and in these doorways and elsewhere in the building can be seen examples of "interpenetration," a device more common on the Continent than in England. Typical ornaments of the period, such as the rose and portcullis, are freely used.

It is always difficult to realise the height of a building designed on such simple lines as those of King's College Chapel, and climbing a scaffold to the top is perhaps one of the best aids to appreciation. The view of Cambridge from the top of the turret almost makes one forget the climb.

The interior of the building, though extremely simple in form, is very impressive, and the detail throughout is very beautiful. The chapel is 40 feet wide, 80 feet high, and nearly 290 feet long internally. This great length is divided in the lower part by the screen, but the fan vault is continuous from end to end. In order to grasp the construction of this vault one should examine its upper surface. A great deal of the internal effect is due to the wonderful stained glass, executed in London, shortly after the completion of the main structure, by Barnard Flower, assisted by four Englishmen and two Flemings. The magnificent organ-screen and the stalls immediately behind it were constructed about 1534. It is doubtless the work of Italians, being quite different from the prevailing work of the period in England; the screen doors were made about a hundred years later, the organ case in 1688, and the stalls beyond the screen about 1675.

In the early years of the sixteenth century, the gate tower of Jesus College was constructed. It is one of the most charming of the several delightful entrances in Cambridge, and in summer the profusion of flowers growing on the wall at the left adds not a little to the beauty of the approach. The addition, early in the eighteenth century, of a third floor to the adjoining buildings has taken away from the effect of the tower, but it is still a very excellent piece of work. The mouldings are perhaps rather thin and hard, but one can hardly fail to be impressed by the excellent proportions of the parts, the judicious blending of brick and stone, the charming diaper brickwork, and perhaps most of all by the skilful handling of the ornament. The statue in the niche is modern.

At Caius College some interesting gates were built in the latter half of the sixteenth century. The student entered through the Gate of Humility, passed through that of Virtue, and finally went through the Gate of Honour to get his degree. The Gate of Humility was moved to another part of the College in 1868. It was merely a doorway formed in the wall and treated with classical pilasters and mouldings. The Gate of Virtue is a structure in which three sets of pilasters are superimposed on one side, but on the other the only pilasters are those on each side of the gate. For the time and place it is a simple and dignified attempt at Classic. The polygonal tower adjoining the gateway is rather more curious than beautiful. The Gate of Honour is a very much over-rated structure. Its four-centred arch is not quite at home amongst its classical surroundings, and the whole conception seems terribly out of scale and reminds one forcibly of the clockmaker's architectural efforts. It is possible that it looked better originally, for then it had certain pinnacles at the corners and sundials in the upper part, but I fear that the classical portico has always looked absurdly weak under the ponderous mass above. This gate has been attributed to Theodore Haveus of Cleves, but it is probable that it was worked up from designs in "pattern books."

Peterhouse, the earliest of the Cambridge colleges, still retains some parts of the Early

Photo. G. W. Wilson.

ANTE-CHAPEL, KING'S COLLEGE, CAMBRIDGE.

Gothic buildings. About 1635 the library was extended, and it forms the southern side of the front to Trumpington Street. It is a most admirable piece of work, broad, strong, and unaffected, and in its way quite one of the best things in Cambridge. The chapel, commenced in 1628 but faced with stone a few years later, forms a striking contrast to the adjoining buildings. It is an odd combination of Gothic with some of the worst features of the Renaissance. To the north of the chapel is a block built by Burrough in 1732. It is a quiet, inoffensive building, and probably owes something to the Fellows' Building at King's. The arcade to the cloister is of later date than the chapel, the original one being similar to the engaged arcade. The windows above the cloister are also of later date, the original ones being more Gothic in form and only one on each side. The alterations were carried out in 1709. In the interior of the chapel there is some Jacobean woodwork in which Classic and Gothic forms are combined, but this is as charming as the exterior is the reverse. The east window contains Flemish glass of the same date as that of the building; the other windows were glazed with German glass in 1858.

The gate tower of St. John's College, constructed about 1515, is another charming example, the red brick having weathered to a delightful shade and being relieved by diaper work, stone quoins, strings, &c. The carving above the arch contains typical ornament of the period —the marguerites being a graceful allusion to the foundress, Lady Margaret Beaufort, Countess of Richmond. The statue was erected in 1662.

The first court of St. John's was built about the same time as the tower, and the early work which remains is a pleasing specimen of Late Gothic in brick and stone. The lecture-room at the north end of the east side is modern; the south side was rebuilt by Essex in 1772. On the north side is Sir G. G. Scott's chapel, to which further reference will be made, and the west side is occupied by the hall, kitchens, &c. The interior of the hall is very interesting, the original open timber roof and panelling being particularly worthy of attention. The linen panelling on the side walls dates from 1535, but the cornice above is modern. The fine panelling on the end wall was moved back when the hall was extended by Sir G. G. Scott.

Passing through the screens one reaches the second court, a charming design of about 1600 in brick and stone. The oriels, one on the north and one on the south, are typical of the period, the new influence being noticeable in the strapwork above the cornice, the carved panels and the brackets; the windows, however, retain the pointed-arch form. Just to the right as one enters this court there is a doorway of later date than the surrounding work, fitting tight up into a corner. It is designed in a strong, vigorous manner, and so weakens the appearance of the corner as little as possible.

The library, on the north side of the third court of John's, was constructed about 1624, this date appearing on the oriel overlooking the river; but the building retains many Gothic characteristics, such as tracery, and is an interesting example of the strength of the old tradition. The fittings are good examples of Jacobean work, and, unlike earlier library fittings, are connected up to the wall panelling. On the exterior, Classic influence may be seen in the detail and the strongly marked horizontal lines. The remainder of this court on the west and south was built about 1671, this date being worked on one of the western gables. In this work Classic influence is naturally more strongly marked, the details being more Classic and horizontal lines more pronounced. The only Gothic touches are the mullioned windows and the battlements, the latter being copied from the library. The arcade in this court, in which the value of the shadow should be noted, resembles the work of Wren and has been ascribed to his pupil, Hawksmoor.

The Kitchen Bridge and Gate piers were erected about 1700 by Robert Grumbold the mason. The bridge is treated in a simple, yet strong and dignified, manner. Square balusters are used, but are not set diagonally as in some Cambridge buildings.

The first court of Christ's, with the gate tower, which is somewhat similar to that of

John's, was built early in the sixteenth century. Unfortunately it was built of a weak material, and as a result, in common with other Cambridge buildings, had to be faced with stone, or "ashlared." Parts of this were done about 1715, and other parts, by Essex, about 1760. In carrying out this "ashlaring" the general lines of the old work were preserved, but new detail was often introduced. In this case the old mullioned and arched windows were replaced by rectangular openings surrounded by classical architraves.

The Fellows' Building at Christ's, erected about 1640, is attributed to Inigo Jones, but it is very unlikely that Jones had anything to do with it. It is, however, of great interest, as it shows another stage in the slow development towards the full Renaissance. Here the orders are only used as pilasters at the angles and to the archways; the mullioned windows

Photo. H. B. Leighton.

BRIDGE OF SIGHS, ST. JOHN'S COLLEGE, CAMBRIDGE.

are surmounted by entablatures, and in the ground-floor windows keystones and rustication are introduced. The massive angles give strength to the building, and charm is imparted by the balustrade, with its square balusters set diagonally, and the semi-circular break in the parapet over each pier—a feature probably derived from the earlier work at John's. Unfortunately the proportions of the openings are too squat, particularly in the case of the central features.

The Pepysian Library at Magdalene College was commenced about 1680 as a range of chambers. In 1703 Pepys bequeathed his library to be placed in the new building, and when the books arrived in 1724 an inscription was carved on the façade and some ornament added to the spandrels and other features. This building is some forty years later than the Fellows' Building at Christ's, but it shows little advance on the earlier building. The arcade, of course, adds greatly to its appearance, but the treatment of the window heads on the first floor, the manner in which the orders are used, and the extremely slight projection of the wings, are distinctly weak points in the design.

The eastern and southern ranges of Clare College were built about 1640. The work is simple and good, but the gate tower, with its lack of connection with its surroundings, its Gothic niches, its fan vault, its prismatic rustication, and its general air of restlessness, is rather unfortunate. The windows of these ranges originally had pointed heads, and the original battlement was replaced by a parapet in 1762.

Think of Italy in 1640! The High Renaissance was then a thing of the past, and Palladio had been dead sixty years! Even in London, Inigo Jones's Banqueting House in Whitehall had been built eighteen years! And here in Cambridge they were building with battlements and pointed windows!

The front of the southern part, facing King's, is excellent in many ways, but perhaps a trifle hard and monotonous.

Clare Bridge, perhaps the most beautiful of the Cambridge bridges, was constructed at the same time, Thomas Grumbold being paid three shillings for a "draught" of it. The arches are not so strong in appearance as those of John's, and as a matter of fact the central span has sagged. The piers are distinctly good; and here again we have the square baluster set diagonally; the carved panels are, unfortunately, decaying badly. The south part of the western range was commenced in 1640, but its west front, not built until 1671, shows a striking advance on the earlier buildings, for here an order is used systematically in flat pilasters extending through two stories. The windows, originally casements with mullions and transoms, were altered to sashes in 1715, and in 1815 the levels of some of the sills were altered. The north half of this range was built about 1710, and was designed for the sash window. The chimney stacks at Clare are particularly worthy of attention. The eastern gate piers at Clare, of massive rusticated masonry crowned with rich urns, were built in 1673, and the gates were added in 1714. The western piers and gates, of about the same date, are remarkably fine. The piers are excellent in proportion, and their detail is charming.

Of St. Catherine's College the greater part was built about 1676, though a small part at the northern end of the west block was erected about forty years earlier. The architect is unknown, but payments were made to Mr. Elder, surveyor (of London), and to R. Grumbold. The eastern front of the west block is in some ways reminiscent of Clare College. Here, however, the mullions and transoms are retained, and the work to a considerable extent is in brick. The central feature, interesting in itself, is not sufficiently connected up to the adjoining work. The chapel at the end of the north block, designed by R. Grumbold and consecrated in 1704, presents some interesting features, particularly the doorway with the window over. The corresponding building, practically a copy of the chapel, at the end of the south block was finished by Essex in 1757. The hall was turned into a Gothic structure in 1868 by Fawcett. The gate piers are not so satisfactory as those at Clare, the mass above the entablature being too heavy for the delicate work below. They are, perhaps, the work of R. Grumbold, but this is somewhat doubtful.

The gate tower of Trinity College was erected between 1518 and 1535, the statue being added in 1615. It is of brick and stone, but differs from the other example in having a large and small archway side by side to the east, but on the west side there is only a single large opening. Unfortunately the scale of the gate tower is to a great extent destroyed by the large sheets of glass in the windows.

The Great Court into which this gateway opens is one of the largest and most beautiful of all courts. King Edward's Gate was rebuilt in 1601 in its present position, adjoining the chapel. It is crowned with an interesting feature of oak and lead. The chapel, a somewhat dull example of Late Gothic, was commenced in 1555 and finished 1567. The porch was added by Sir A. Blomfield in 1872. The interior is chiefly interesting because of its magnificent woodwork, constructed in the first half of the eighteenth century. The baldachino and the organ-screen are particularly noteworthy.

The fountain near the centre of the Great Court was designed by Ralph Symons, and is one of the most delightful of its kind. Finished in 1602, it exhibits many of the characteristics of English Early Renaissance. It was rebuilt, with but few alterations, in 1716.

The hall, finished in 1605, has the usual arrangement of the screens and the bay window at the end. The porch is a pleasing example of Early Renaissance work, and the cupola is another fine feature. The somewhat dull Classic building to the south of the hall was erected

CLARE COLLEGE, CAMBRIDGE.

(From Belcher and Macartney's *Later Renaissance in England.* By permission of Mr. Batsford, the Publisher.)

about 1775 by Essex. The interior of the Hall, with its hammer-beam roof showing signs of Classic influence, and its typical panelling, is particularly interesting.

Passing through the screens one reaches Nevile's Court, the eastern half of which was finished before 1612. The court was extended about 1680, and in 1756 Essex removed the pilasters and substituted a balustrade for the gables, tending, as usual, to replace charm by dullness. The terrace at the east side with its niches, &c., was erected about 1680. Robert Grumbold may possibly have been the architect.

At Pembroke College, the entrance gate and the Trumpington Street front were

"ashlared" in 1712, and though the general lines of the gateway with the two oriels above are very pleasing, the work is somewhat hard and unsympathetic.

The new chapel at Pembroke, erected about 1664, was the first building in Cambridge of the fully developed Renaissance. It was designed by Wren, and built at the cost of his uncle, Dr. Matthew Wren. The building is of brick with a stone front to Trumpington Street and stone dressings on the other façades. It is simple and dignified, and free from the quaint conceits of the Early Renaissance. In 1880 it was lengthened, in a very satisfactory manner, by Mr. G. G. Scott. In carrying out this addition, Scott did not merely erect another bay of Wren's work, for while his work harmonises with Wren's it has distinct individuality. The oak organ-screen, in which the Corinthian order is used, and the panelling in the interior are particularly good, the work being that of local craftsmen.

After the erection of Wren's chapel the old chapel was fitted as a library. Its fine ceiling of plaster and the interesting oak book-cases were constructed in 1690.

After completing Pembroke Chapel, Wren was called in to design the chapel and cloister of Emmanuel. These were built between 1668 and 1677, and the general scheme—though not the architectural features—reminds one of Peterhouse. The squatness of the windows, and the clock turret breaking through the pediment, are the least satisfactory features of this design. The original south wing at Emmanuel by Symons—the architect of so much delightful work in Cambridge—was unfortunately rebuilt in 1719, and the new wing is only a dull piece of work.

The Library of Trinity College, built from Wren's designs at the west end of Nevile's Court between the years 1676 and 1695, is perhaps on the whole the finest building in Cambridge. We have seen a number of the Cambridge buildings, and have perhaps been impressed by their charm and picturesqueness, and as one wanders through the Great Court of Trinity such impressions are more firmly fixed in one's mind. But pass through the screens of the hall and into Nevile's Court, and one sees immediately in front a building whose appeal is not that of picturesqueness, but of dignity.

Wren's problem was by no means a simple one, but he managed it in a masterly manner. To accommodate the books in the library the sills of the first floor windows had to be high above the floor, and this floor, to fit in with that of the adjoining chambers, had to be comparatively low. Wren's solution of the problem involved the filling in of the arches of the arcade, and this he did with the aid of flat arches. A similar problem occurred at Hampton Court, where Wren used a flat segment below the main arch, but the flat arch is more satisfactory as it avoids the conflicting curves of the other treatment.

Of this front, Wren writes, in explaining his design, in language as dignified and forceful as his architecture:

"I chose a double order rather then a single, because a single order must either haue been mutilated in its members or haue been very expensiue, and if performed would not haue agreed with the lownesse of the porches, which would haue been too darke and the solids too grosse for the openings. I haue given the appearance of arches as the Order required fair and lofty: but I haue layd the floor of the Library upon the impostes, which answar to the pillars in the cloister and the levells of the old floores, and haue filled the Arches with relieues of stone, of which I haue seen the effect abroad in good building, and I assure you where porches are lowe with flat ceilings is infinitely more gracefull then lowe arches would be and is much more open and pleasant, nor need the mason feare the performance because the Arch discharges the weight, and I shall direct him in a firme manner of executing the designe—I haue giuen noe other Frontispeece to the midle then Statues according to auncient example, because in this case I find anything else impertinent—This may be don if you please, you may make the three middle Arches with 3-quarter columnes and the rest with pilasters of a third of their Diameter, which will saue some charge in stone, but it is best as it is designed."

The four statues referred to were designed by Gabriel Cibber, father of the well-known actor-manager, Colley Cibber.

The front to the river is designed, as Wren says, "after a plainer manner," but it is very pleasing, and the three iron gates, which with the iron rails in the staircase were wrought by "Mr. Partridge, the London Smith," at a cost of £400, while being rather unusual are very

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(From Belcher and Macartney's *Later Renaissance in England.* By permission of Mr. Batsford, the Publisher.)

satisfactory, particularly as regards the concentration of the ornament. Wren's design shows a semi-circular pediment over the central portico, but this was not carried out.

The effect of this building is considerably enhanced by the colour of the stone, which varies from yellow to pink, and which, particularly in the sun, looks delightful.

The interior of the Library is particularly simple, dignified, and above all things suitable to its purpose. It is divided into bays by cases at right angles to the wall.

The iron piers and gates to the Backs of Trinity are fine examples. The date of their construction is not known, but they were given to the College in 1733.

The plan of the Fellows' Building at King's College (commenced in 1724 by James Gibbs) is a simple rectangle of great length with a slightly projecting central feature crowned with a pediment. In the centre of the length an archway, reaching up through two stories, is cut through the buiding, and this archway is treated on each side of the building with a Doric portico—the only use of the orders in the building. Unfortunately the portico is too large to be in scale with the other features, but apart from this there is much to admire in the

Photo. H. B. Leighton.

THE FELLOWS' BUILDING AND CHAPEL, KING'S COLLEGE, CAMBRIDGE.

structure. Strength is given to the lower story by rustication, and, particularly on the river front, the massing of the voids and solids is good, though the angles might be stronger with advantage. The fine crowning cornice and the concentration of the ornament on the central block are also worthy of attention. In the view from the river one can contrast the strong vertical lines of the Chapel with the horizontal ones of the Fellows' Building. The eastern front is made more interesting by the four doorways, but unfortunately the inclusion of these features causes an increase in the number of voids and the spacing is not so good as in the river front. This block was to have formed one side of a quadrangle not connected at the corners, and of which another side was already occupied by the Chapel, but the other blocks were not constructed. Hawksmoor had prepared a scheme in 1713, but this was abandoned and Gibbs was appointed.

The Senate House, built between the years 1722 and 1730, was originally intended to form one of three sides of a court, but this scheme was never carried out, apparently because

of a difference of opinion as to whether the sides were to be connected at the angles or not. Burrough was consulted about the work, but there is little doubt that Gibbs was responsible for the design.

The Senate House is a stately piece of work in which use is made of the Corinthian order extending through the two stories. Pilasters are used except under the pediments on the south and east fronts, where projection is obtained by using three-quarter columns. The columns, but not the pilasters, are fluted, and the angles of the building are strengthened by the use of coupled pilasters. The windows extend round three sides of the building, the west end being blank; in the upper story they have semicircular heads, but on the ground floor square heads, with triangular and segmental pediments alternately. The only ornament is to be found in the capitals, the entablature, the main pediments, and in the entablature over the

Photo. H. B. Leighton

THE SENATE HOUSE, CAMBRIDGE.

doors. Perhaps more emphasis might have been given to the doors with advantage. The interior is as good as the exterior, the oak screen and gallery being particularly noteworthy. The ceiling and other plaster work are by the Italian artists employed by Gibbs on the Radcliffe at Oxford. There is an unfortunate lack of connection between the lines of the ceiling and the wall.

The main block of the University Library is a Gothic structure, at one time forming the Schools, and until 1730 the northern wing was the Senate House. Between the years 1754 and 1761 Stephen Wright erected the eastern room and extended his façade across the eastern end of the northern and southern wings. This façade, consisting of a boldly projecting central block and two wings, is quite one of the finest examples of the Later Renaissance in England. The angles, throughout, particularly those at the extremities of the façade, are strong, and the quoins and arches of the lower story are boldly rusticated. The centre of the block is well marked by the three-light window on the first floor and the bold keystones. The building is crowned by a simple but bold cornice with balustrade and urns above, while below the

cornice there is a fine band of ornament forming a delightful frieze, the only ornament on the front. The open arcade in the lower story of the central block, with its dark shadows in the openings, adds considerably to the effect.

The timber bridge at the back of Queens' College was built about the middle of the eighteenth century by Essex's father from the designs of a Mr. Etheridge. The western façade of Queens' to the river is a charming piece of simple brick and stone work of early date not improved by the work at the south end by Essex.

Trinity Bridge, a particularly simple example in three spans, was built by Essex about 1764. As is the case with most of the work by Essex, one finds difficulty in getting enthusiastic about it, though its surroundings are most charming.

The front of Emmanuel College, erected about 1772, was also designed by Essex, who unfortunately did not restrict himself to the erection of new buildings, but, as we have seen, took a leading part in the process of robbing earlier buildings of their charm.

In 1771 Essex was selected as the architect for a new College—Downing. It is not clear whether he sent in a design or not, but in 1784 Mr. James Wyatt is spoken of as the architect, and it is stated that the King asked that the building should not be Gothic. Wyatt prepared two designs, which were criticised in 1804. Other designs were submitted by William Wilkins and other architects, and Wilkins' designs were ultimately approved in 1806 by a committee of architects including George Dance, Junr.

Wilkins, who was a Cambridge student, spent the first four years of the nineteenth century in travel and study in Italy, Greece, and Asia Minor. On his return he prepared a design in the Greek manner for Downing. The complete scheme was in the form of a quadrangle, but only the eastern and western sides were erected between the years 1807 and 1811, when work was stopped, to be resumed on the same ranges in 1873 by E. M. Barry. This was Wilkins' first work, and was also one of the earliest examples in Cambridge of the Greek revival, that revival which was then playing such an important part in the development of architecture in England. Wilkins is better known as the architect of the National Gallery and of London University College, but unfortunately he did not confine himself to Classic work.

Professor C. R. Cockerell was the architect for the annexe on the north side of the University Library, which was practically completed by 1840. Had it not been for the shortness of funds the older buildings would have been demolished at this time to make way for new ones. A condition of the appointment was that the design was to be Greek, but like much of Cockerell's work this building is Greek not in the sense of being a copy of a Greek building, but in having the refinement and delicacy of detail of Greek work.

The last building of the Greek revival to which reference will be made is the Fitzwilliam Museum, designed by Basevi and commenced in 1837. Basevi died in 1845, after a fall in Ely Cathedral, and the work was carried on by Cockerell until 1847, when lack of funds led to suspension of the work. In 1875 E. M. Barry completed the building, by finishing the entrance hall, which, with its profusion of coloured marbles, is perhaps the least satisfactory part of the structure. This is the first building connected with the University which one sees on entering Cambridge by Trumpington Street, and its dignified façade is worthy of this honourable position. It is unfortunate that side entrances were formed to the portico, as they weaken the angles on the flanks. Another slight defect is the apparent lack of support at the wall end of the ceiling beams in the portico, a point which was treated better in Basevi's original design.

Contemporaneously with this Greek revival work, buildings were being erected in Cambridge in the Revived Gothic manner. At first these were very lifeless and unsympathetic, but after the middle of the nineteenth century the buildings became more vigorous and interesting.

In 1821 Jeffry Wyatt, afterwards Sir Jeffry Wyattville, was called upon to remodel Sidney Sussex in the Gothic style, and in so doing he practically removed all the delightful work erected by Ralph Symons at the close of the sixteenth century.

At Trinity College Wilkins was at work in 1823-5 on the New or King's Court. To the Classic work by Wilkins reference has already been made. His Gothic work makes one regret that he did not keep to Classic.

The main court of Corpus Christi and the façade to King's Parade were also carried out by Wilkins about the same time. This was a fine opportunity, as the court is large and the buildings included the Library and Chapel, but it is all dull and the detail hard and trifling.

At King's College the entrance gate and screen and the buildings on the south, carried out between the years 1824 and 1828, form another of Wilkins' Gothic efforts. It was the intention at the time to Gothicise Gibbs' building, but fortunately this was spared. Adding Gothic work to a College which already possessed King's Chapel was no easy task, and it cannot be

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said that Wilkins rose to the occasion, as his buildings at King's are as hard and unsympathetic as his other Gothic attempts.

Wilkins also designed King's Bridge, the simplest of the Cambridge bridges, being in one span of fifty-five feet. It was intended originally to be opposite the centre of the Fellows' Building, and it may have been started there, but it was finally erected in 1819 opposite the south end.

Between 1826 and 1830 a new block of Gothic buildings was added to John's on the western side of the river. Of this work, Mr. Hutchinson's bridge is the most pleasing, having a certain picturesque charm, the main buildings, by Rickman, being unsatisfactory, except when seen at a very considerable distance.

The University Press or the Pitt Press, built in 1831 from the designs of Mr. Blore, compares favourably with the Gothic work of better-known men previously mentioned.

Reference has already been made to Salvin's restorations at the Round Church and the Chapel of Jesus College. Between the years 1840 and 1863 he was responsible for a good deal of Gothic work in Cambridge, both in restoration and in new buildings. He restored the

Master's Lodge at Trinity, built the Hall and Library at Caius, a new front to Trinity Hall, the new front to the north of the gateway at Trinity College, and Whewell's Courts, Trinity. In 1863 his last work—the new Museums for Natural Science—was commenced.

To Sir George Gilbert Scott's restorations at St. Mary the Great and Little St. Mary's reference has already been made. He also built the south side of the West Court of the University Library. In 1870 he designed Chetwynd Court—an addition to and closely following the designs of Wilkins' buildings at King's—and restored the Hall and Combination Room at Peterhouse, the fine stained glass here being by Morris and Burne-Jones.

Sir G. G. Scott's principal work in Cambridge is, however, the Chapel of St. John's College, built in the geometrical style in 1862-9. At the same time he lengthened the Hall towards the north. At the west end of the Chapel there is a spacious stone-vaulted ante-chapel on the lines common in Oxford. The body of the Chapel is vaulted in oak in one span of thirty-four feet, and the east end is in the form of an apse. It was Scott's original intention to place a flèche over the ante-chapel, but it was subsequently decided to build a tower. Internally various coloured marbles are used for the shafts and other features, and externally the shafts are of red Mansfield, which has, unfortunately, crumbled badly.

Between the years 1868 and 1870 Alfred Waterhouse practically rebuilt the first court at Caius and added an apse to the Chapel. At Pembroke he built the street front south of the Chapel in 1870, and between 1873 and 1875 the Master's Lodge, the Hall, Library, and the Clock Tower at Pembroke; at about the same date he rebuilt the eastern block of the New Court at Trinity Hall, and in 1870 he completed the New Court, to the north of Jesus College, by building its northern range, the range to the east of the College being by Messrs. Carpenter and Ingelow. The first part of the buildings of Girton, the first of the Cambridge Colleges for Women, was occupied in 1873. This was designed by Waterhouse, who made extensions to this College as required.

In 1865 All Saints' Church, opposite the entrance to Jesus College, was built from Mr. Bodley's designs. It is noteworthy for its fine spire and for the glass of the east window by Morris. Mr. Bodley worked on the restoration of Christ's College and Queens' College, and in 1891 he built the new Chapel at the latter; but his best work in Cambridge is undoubtedly his River Court at King's. In some of the above work Mr. Bodley was assisted by his partner, Mr. Garner.

Selwyn College, founded with the object of providing University education at a reasonable cost, was opened in 1882, and its Chapel, built of brick and stone in the Late Gothic style, was consecrated in 1895. This work was designed by Sir Arthur Blomfield, who, besides being responsible for a good deal of restoration work in Cambridge, also designed the porch of Trinity Chapel (1872) and two ranges of Chambers for Trinity (1878).

Towards the end of the nineteenth century, interest in Revived Gothic was rapidly decreasing, and architects were turning for their inspiration to a later phase in the development of architecture.

Mr. G. G. Scott—who restored the east end of St. Mary the Less, designed the addition to Pembroke Chapel, to which reference has already been made, and rebuilt the hall at Christ's—is best known in Cambridge for his new Court at Pembroke (1883). The staircase pavilions in this fine piece of work give variety and charm to the design, and, though the windows are necessarily at different levels from the adjoining ones, yet these pavilions are well tied to their surroundings. Mr. G. G. Scott also designed the laboratory on the opposite side of Pembroke Street.

J. L. Pearson, who restored and added to the western façade of the University Library in 1890, also designed, about the same time, the new Court at Sidney Sussex College, which cannot, however, rank as one of his best achievements.

Newnham College, the second College erected for women in Cambridge, is an interesting and picturesque group of brick buildings, commenced in 1875 from designs by Basil Champneys, and gradually extended. An interesting feature is the fine gate, presented by students as a memorial to the first Principal, Miss Clough.

In 1876 a limited competition for the Divinity Schools was won by Mr. Champneys. The conditions stated that the building was to be in the style of the sixteenth century and that the materials were to be red brick and stone. In 1883 Mr. Champneys designed the Archæological Museum, but this building is now much too small for its purpose, and new buildings are being erected. The Latham Building at Trinity Hall, a pleasing example of the Collegiate type in red brick and stone, was erected in 1892 from designs by Messrs. Grayson and Ould, who have recently carried out additions at Selwyn.

Photo. H. B. Leighton

THE FITZWILLIAM MUSEUM, CAMBRIDGE.

There are in Cambridge several excellent examples of the work of the present century. These buildings are principally in Downing Street, on the south side of which a fine range, including the Museum of Geology, the Law School and the Law Library, has recently been erected from the designs of Mr. T. G. Jackson, and the foundation-stone of the Archæological Museum has recently been laid. Mr. T. G. Jackson is better known for his work in Oxford, but his work in Cambridge is quite equal to that in the other town.

At the back of this block by Mr. Jackson there is the Botanical School, a somewhat plain but well-proportioned building designed by Mr. W. C. Marshall. It is of a reddish-brown brick with stone dressings, and its length is relieved by a central projection treated with the Ionic order and crowned with a segmental pediment.

On the opposite side of Downing Street is the Medical School, with the Humphrey Medical Museum by Mr. Prior, an interesting building, but one not quite so much in sympathy with traditional Cambridge work as others to which reference has been made. One feels, too, that distinction could have been given to the Museum at the angle without treating it quite so irregularly.

THE SQUIRE LAW LIBRARY, CAMBRIDGE.
(T. G. Jackson, R.A., Architect.)

SCHOOL OF AGRICULTURE, CAMBRIDGE UNIVERSITY.
(Arnold Mitchell, Architect.)

Behind the School of Botany is the School of Agriculture, which was opened last June. It is somewhat similar in its general lines to the School of Botany, but Mr. Arnold Mitchell has designed it with rather more vigour and originality.

At Magdalene College a new range of buildings, facing the river, and including lecture-

Photo. E. Dockree.

ST. MICHAEL'S COURT, CAIUS COLLEGE, CAMBRIDGE.
(Sir Aston Webb, C.B., R.A., and E. Ingress Bell, Architects.)

rooms, kitchens and sets of rooms, has just been completed from the designs of Sir Aston Webb and Mr. Ingress Bell. It is an admirable example of quiet, dignified work, built with thin bricks and stone dressings, and a tiled roof. The same architects are also responsible for the interesting additional sets of rooms for Caius College, built on an awkward site in Trinity Street, and for recent additions to King's College.

Some further additions to Pembroke College have just been completed. Additional accommodation was required, and at the same time means of access for the occupants of Scott's building to the old buildings on the other side of the Master's Lodge had to be provided without blocking the approach from Pembroke Street to the Lodge. Mr. Caröe solved this difficult problem skilfully, constructing a bridge of five arches carrying a footway. Thus practical needs have created what is practically a new feature in College architecture.

In this Paper an attempt has been made to trace the development of English architecture as exemplified by Cambridge buildings. We have seen some few examples of Gothic, cul-

Photo. Hills & Saunders.

PEMBROKE COLLEGE, CAMBRIDGE: NEW BUILDINGS.
(W. D. Caröe, Architect.)

minating in the wonderful Chapel of King's; we have witnessed the struggles of the Early Renaissance, and we have seen some of the finest examples of the perfected Renaissance; we have regretted much of the destructive work of the eighteenth century, and some of the constructive efforts of the nineteenth; we have doubtless admired a good deal of the work of men who have only recently passed away, and in the work of those who are still with us I hope we have seen something which makes us feel that architecture is a living force. To be called upon to add to the magnificent architectural treasures of Cambridge is one of the greatest responsibilities and one of the greatest honours which can fall to the lot of an architect, and in the work of the last few years we must feel, I think, that the architects have realised this responsibility and have designed buildings worthy of their surroundings.

BYZANTINE RESEARCH.

The Church of the Nativity at Bethlehem. By W. Harvey, W. C. Lethaby, O. M. Dalton, H. A. A. Cruso, and A. E. Headlam, illustrated by drawings and photos by W. Harvey and others. Edited by R. Weir Schultz, and published by B. T. Batsford on behalf of The Byzantine Research Fund. Price 30s. *net.*

At last this most historic church has been made the subject of close investigation by a happy combination of experts. The Byzantine Research Fund is to be congratulated upon its choice of a building marking the advent of possibility in the presentation of a latent building nature which, from lack of national opportunity, had hitherto revealed itself chiefly in the mishandling of Hellenistic forms. By the imposition of an exotic classic dogma, a desire for architectural greatness had been kept alive, and in the adaptation of the classic style, native individualism constantly appears. The chief constructive characteristics of this individualism were plain wall surfaces and flat roofs with parapets (as demanded by the Jewish law), while the spirit of enrichment was expressed in close, flat-growing ornament. Such was the native building nature of Palestine as against the more fashionable classic treatment of column and lintel, with sloping roof and projecting eaves, enriched by a bold type of ornament which in Roman times was inclined to overstep the limit of stone carving propriety.

Mr. Harvey has written Chapter I., "A Particular Description of the Church," which gives, lucidly, the results of his thorough examination of the whole structure. His most valuable conclusion is that "the whole church was designed at once and that, with the possible exception of the narthex, it is Constantinian." This conclusion ousts the theory of a later restoration by Justinian, the arguments for and against which are exhibited in the following chapter. The unusual cohesion of structure and detail is evidence of an independent work, freed from the temptation to utilise fragments from earlier buildings. Mr. Harvey writes that "the plan of the church is symmetrical and regularly set out to a degree very unusual in Byzantine buildings, the shafts in the nave colonnades being placed at approximately equal spans, and, like all the free standing shafts in the building, they are of equal girth and height. The capitals of the columns do not differ greatly from the Roman model, except that the acanthus leaves have fairly sharp serrations and that a cross upon a projected semicircular boss replaces the usual rosette in the centre of the abacus." The extent to which the carving of the capitals differs from the Roman model is greater than is here indicated, as the following chapter shows (pp. 23–24). Although, in the main, the motif is the same, the treatment shows a desire for something more in accord with existing tradition.

Chapter II., "A General Historical and Descriptive Account," by W. R. Lethaby, quotes the testimony of early writers "that the existing Church of the Nativity was that erected by Constantine between A.D. 327 and 333." He illustrates a similar triapsidal treatment in the Church of Paulinus, *c.* 400 A.D., and in the white monastery of Sohag, Egypt, fifth century, quoting Strzygowski's statement that "the type was raised by Constantine to canonical importance, and the church which created it stands at Bethlehem."

In dealing with the tradition that Justinian rebuilt the church, which seems to have hitherto misled those whose examination had been less penetrating than that of Mr. Harvey, the author writes: "The view that Justinian rebuilt the church is based on a story given in the Arabic chronicles of Eutychius, written in the tenth century; it includes matter which is obviously legendary, such as the Emperor's execution of the architect, a story which is repeated by him of the architect of the Convent of St. Catherine on Mount Sinai." The carved crosses occurring on the abaci of the capitals served to support this tradition, as it was contended that the use of the cross did not go back to early Christian times. Recent research, however, shows that "the difficulty as to the use of the cross has disappeared, as within the last few years many early examples have been found. For instance, Constantine's Cup at the British Museum, which is earlier than the year 327, has a portrait of Christ with a cruciform nimbus, and a sarcophagus relief at Berlin, which is probably still earlier, has a similar nimbus to a figure of Christ. Mr. Crosby Butler has described several fourth-century buildings in Syria on which the cross appears." "That the cross was in general use in Asia Minor in the third century has been shown by Sir Wm. Ramsay."

Against the argument in favour of a Justinian restoration of the church based upon the later introduction of the steps to the cave, Professor Lethaby brings authority to prove that the cave was originally entered from the passage to the north. The argument need never have been set in favour of the Justinian theory, as an examination of the plan of the cave shows how adaptable it is to the introduction of double entrances at any time in the history of the church. Indeed, the innumerable cave dwellings and cisterns which honeycombed every inhabited area of Palestine, would have made it, on occasion, a matter of surprise if, within such a site, several openings did not occur, readily suggesting the existing arrangement. The analogy drawn from the similarity of the plans of Romanesque crypts does not appear to be of much account.

The author refers to the early use of the cruciform plan, and among other examples, cites the Church of Jacob's Well at Shechem, delineated by Arculph as a "perfect equal-armed cross." There is room for doubt as to whether this plan was

that of the church, which, possibly, might have been destroyed by Chosroes before Arculph's visit, and there is some reason for the suggestion that the plan was taken from the crypt, the form of which is nearly enough "equal-armed" to be so mistaken. No supporting evidence has been found in the church over. Arculph makes no mention of the entrance to the crypt, which has two entrances, one on either hand, as at Bethlehem. To the second-hand nature of the Arculph record may be attributed some of the difficulty of comparison.

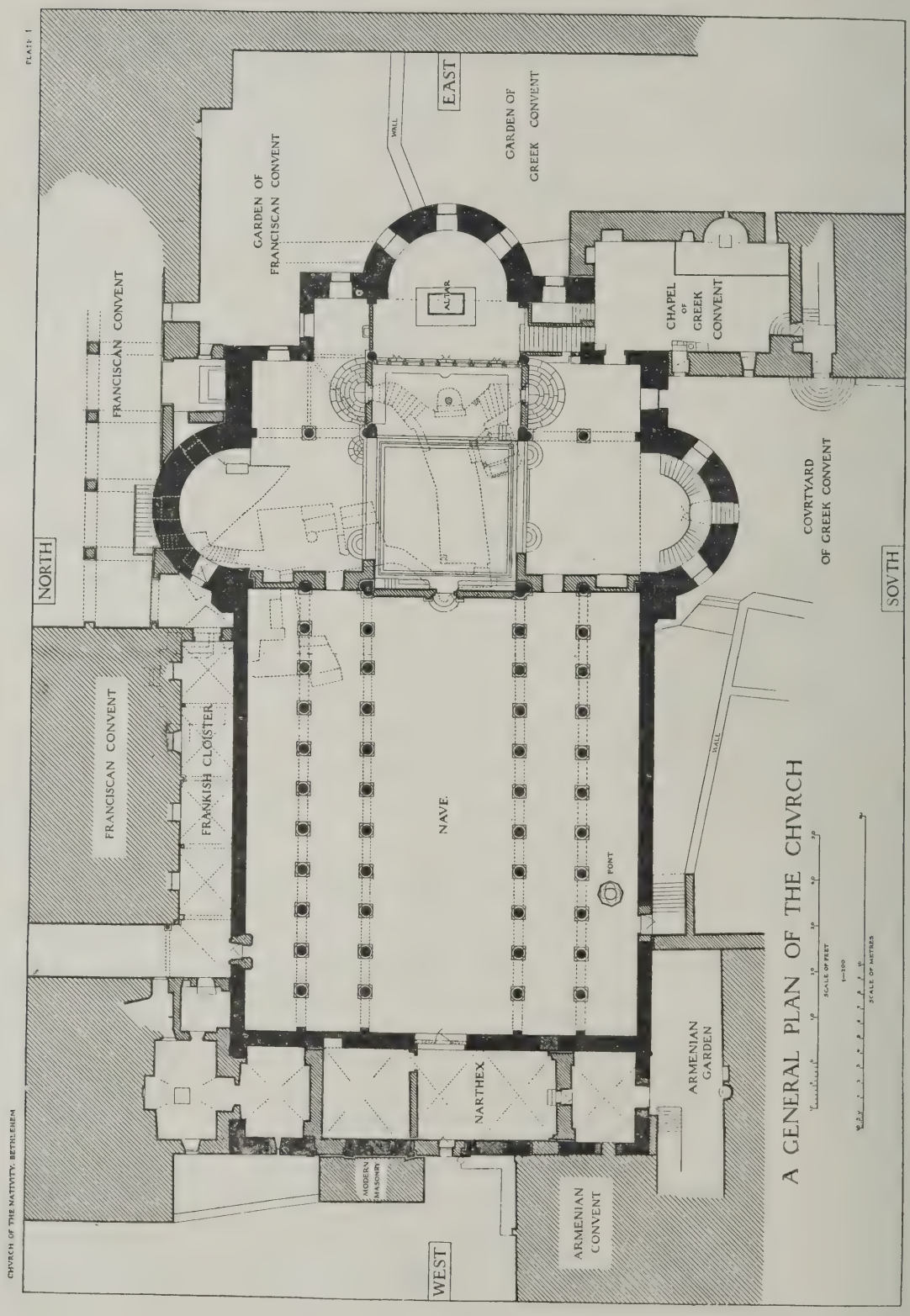
Constantine's attachment to the triapsidal arrangement is seen in the Anastasis at Jerusalem. It is curious that the cruciform treatment does not appear to have been popular in the early churches in Palestine. Eudocia's churches, fifth century, ignore the precedent. This may still further support the author's claim for a Roman origin to the triapsidal plan.

The compound angle piers which are also found in the third-century synagogue in Galilee, "point to the conclusion that Constantine's architect was a native of the country," in which case it would seem that he was instructed as to the triapsidal arrangement.

"The church at Bethlehem is to be classed rather as Early Christian than as Byzantine. That is, the architectural elements are Late Roman, modified by being adapted to a new purpose. This later Roman style, in the eastern provinces especially, already had germs of what were to develop into Byzantine characteristics, but this is so in regard to details and in feeling rather than in new structural methods. The style of stone masonry in which it is built is that of Syria, and there are certain resemblances to the later monastic churches of Egypt and to that of Sinai. An almost exactly similar capital to those of the interior of the Church of the Nativity has been found at Almas in Egypt; this also had a cross on its abacus. The schools of Roman-Christian art of Egypt and Syria seem to have had much in common, and it is to them—perhaps especially in Egypt—that we should look for so much of the new thought which was to transform Roman art into Byzantine art. Strzygowski in a series of brilliant essays has argued for the Oriental basis of the newer art to the exclusion of Rome. But a distinction will, I am confident, have to be made between the spirit and the body, between the structural and ornamental elements of the newer style. Much that has been argued as to the non-Roman origin of Byzantine *building forms* will have to be given up, and a part of Rivoira's claim for Rome and Italy will have to be conceded, although he seems to exaggerate in making too much of the metropolis and the home country, to the neglect of the Hellenistic cities of the East. There are two great difficulties in the way of any clear statement of Byzantine origins—the tendency to identify Rome the empire with Rome the city, and the difficulty of separating the expressional content of the newer art from its structural means. The triapsidal plan of our church, for instance, Strzygowski would refer to some far-off Eastern prototype, remote in time as in place, but his only substantial argument is based on the form of the central hall in the palace of Mshatta in Moab, which he attempts to date in the fourth or fifth century A.D. As a matter of fact the date of Mshatta seems more likely to be of the sixth century at earliest, while the triconch is found in the Roman palace of Treves. The date of Mshatta is of further interest to us, as Strzygowski has pointed out the resemblance between the curious tree-like forms found in the mosaic decorations of the Church of the Nativity and others found sculptured on the façade of Mshatta. Now Mshatta, as a whole, has a close resemblance to the recently-discovered Castle of Wardau, in Syria, which is certainly dated as having been built by Justinian in the sixth century. The type of design of the richly-carved façade of Mshatta seems related to the Egypto-Syrian school of the sixth century, with some Persian mixture. These Persian elements themselves seem to belong to the sixth or seventh century. For instance, one very characteristic feature is a curious griffin with a peacock's tail; now this monster is so frequently found figured in Sassanian stuffs and silver-work of the seventh century that it would seem to be an indication of that epoch."

One reads this delightful summing-up with the appreciation due to the great knowledge of the author. It is, however, difficult to refrain from commenting upon what seems to be a too anxious desire to find chapter and verse in a polyglotic book of origin to the exclusion of the more generous acceptance of a spontaneous native building desire, long deferred, to which classic innovation never wholly appealed. A distaste for column and entablature and a liking for plain parapetted walls suggest some elements of import in constructing the "body," and these with the enrichments of Persian and Assyrian tradition which influenced Syria long before the period of the Sassanidae dynasty, to which time the author ascribes the highly developed carving of Mshatta, seem to suggest much of the "spirit." The later development of the style grew with the force of a new demand, ridding itself effectively of classic entanglements.

Chapter III., "The Surviving Mosaics," by O. M. Dalton: "The Church of the Nativity was ornamented with mosaics from the century of its foundation, and, whatever may have been the nature of its original adornment, the restoration of the twelfth century resulted in an elaborate scheme, comparable to that of the 'illuminated' churches of Greece or Sicily." The story of the soldiers of Chosroes points to the existence of an external



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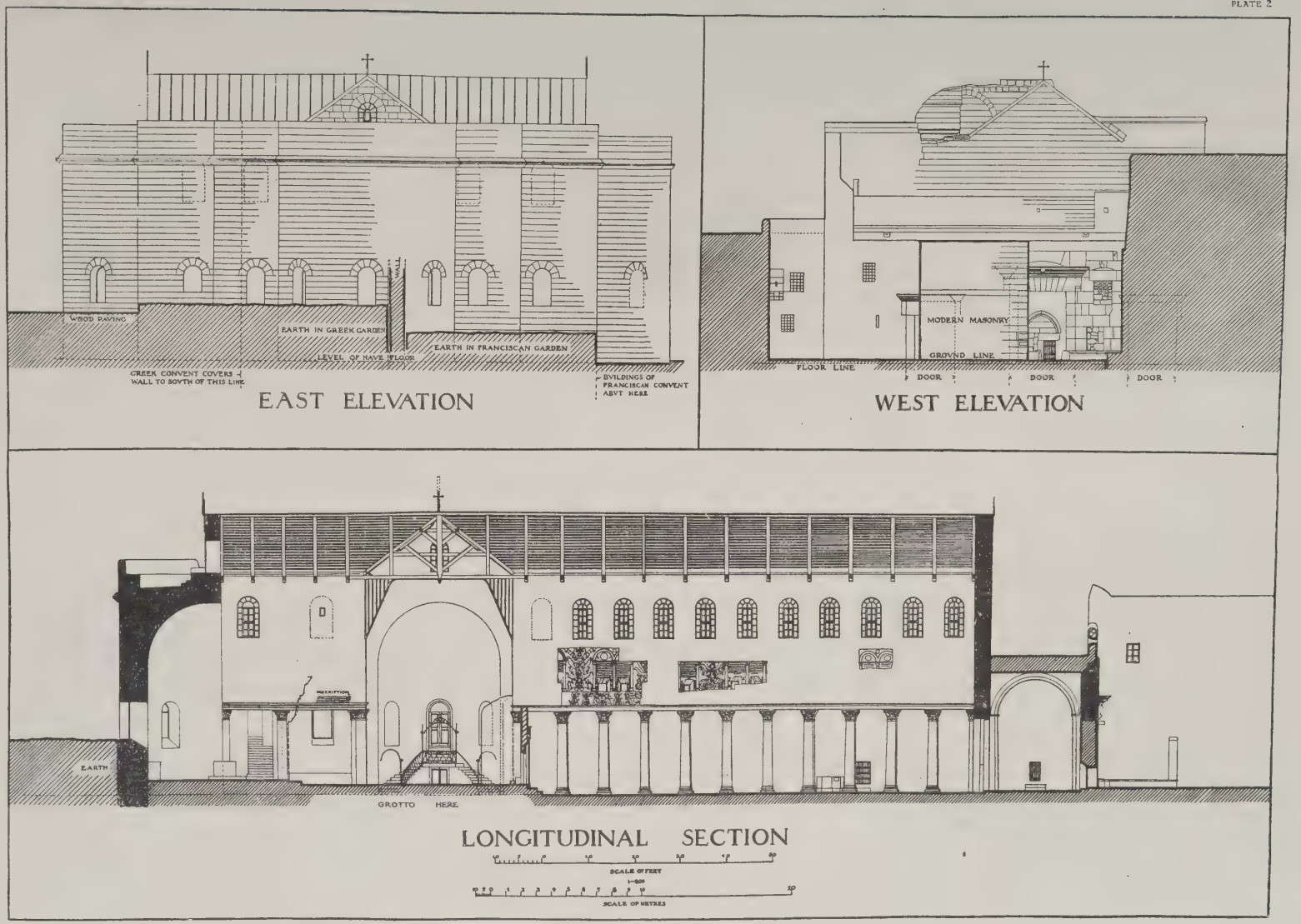

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mosaic, including the Adoration of the Magi, upon the west front, a composition which is thought to have inspired ivory-carvings and other portable works of art in the sixth century.

In drawing the surviving mosaics Mr. Harvey explains the great difficulties under which he worked, the colours and forms being so much obliterated that they had to be inferred from the evidence of those portions which were sufficiently clear to give a key to the colours. He "found no proof of systematic restoration." "The only additions which he could detect take the form of lines roughly painted." "All that remains of the mosaic must therefore be regarded as original work." The materials used were chiefly glass, but cubes of limestone and squares of mother-of-pearl were used for the larger round and pear-shaped spots. "The principal colours used in the designs are various shades of green, red, and blue, the two former hues greatly predominating in the nave, dark blue being more conspicuous in the work of the north transept."

The nave decoration consisted of a series of busts representing the ancestors of Christ with conventional representations of churches and architectural tables. The inscriptions relate to the General or Provincial Councils.

"The purely ornamental motives in the nave recall those of other mosaics in the Holy Land executed by Greeks for foreign princes. The resemblances are most marked in the case of those of the Mosque El Aksa at Jerusalem, the mosaics of which were executed for Saladin by Byzantine artists in A.D. 1187. There are also analogies to the mosaics in the Mosque of Omar." Judging from the coloured plates 10–11, the scheme of colour in the Mosque of Omar is however entirely different and much finer. Any criticism of the coloured drawings must however take into account the great difficulties under which Mr. Harvey worked. In reproduction also, colour drawings are not always fairly presented.

The author points out that the decorative "wings" on the north wall of the nave have a Persian origin and are connected with the Sassanian emblem of sovereignty, and he draws a comparison with the "winged candelabra" at Mshatta. The interlacing decorative band, he points out, shows an Armenian influence.

The chapter is devoted to a searching analysis of the mosaics throughout the whole church, with the conclusion that they are the work of the eleventh or twelfth century.

Chapter IV., by H. A. A. Cruso, is devoted to "Accounts by Pilgrims and other visitors to the Church arranged in Chronological Order, commencing with the account given by the Bordeaux Pilgrim A.D. 333, and ending with Pietro Casola A.D. 1494." The most important statement of these writers is that made by the Bordeaux Pilgrim, who testifies to the early date of the church in the brief sentence: "There a basilica has been built by order of Constantine."

Chapter V., "The Cave of Bethlehem," by A. C. Headlam," is a short chapter dealing with the earliest references to the birth-place of Christ. He quotes Jerome's letter to Paulinus, referring to Hadrian's pagan appropriation of the sites of the birth and the resurrection. "Even my own Bethlehem, as it now is, that most venerable spot in the whole world, of which the Psalmist sings '*The truth hath sprung out of the earth,*' was overshadowed by a grove of Tammuz—that is, of Adonis; and in the very cave where the infant Christ had uttered his earliest cry, lamentation was made for the paramour of Venus."

The illustrations by Mr. Harvey are excellent. The plans, elevations and sections are clearly shown and exhibit the care necessary in such work. The photographs, although sometimes not too clear, are well chosen. One word in complaint. The cutting in two of the main plan, is surely a blunder. There is nothing in the drawing that could not have been clearly shown on a single page, and when it is necessary to illustrate a plan on a double page, it would be better to provide a pocket in the cover with the plan fixed to a slip, so that it could be studied more comfortably while referring to the text. Mr. Batsford has produced the work in his usual good manner.

A. C. Dickie [*A.*].

A CATECHISM IN SANITARY LAW.

Sanitary Law in Question and Answer, for the use of Students of Public Health. By Charles Porter, M.D., B.Sc., &c. Price 2s. 6d. net. [*Messrs. Longmans, Green & Co., 39 Paternoster Row, London.*]

In this book Dr. Porter has made a very thorough and successful effort to straighten out the tangled mass of legislation that may be included under the heading of Sanitary Law. If we may borrow an expression from the theatrical world, we may say that he has potted the Public Health Acts, and that he presents them in tabloid form. He gives what may be called the plain English of some fifty Acts of Parliament, from the Cemetery Clauses Act, 1847, to the Housing, Town Planning, etc., Act, 1909, both inclusive. This information is cast in the time-honoured mould which our grandmothers associate with the memory of *Magnum's Questions* at the Dame's school. Thus 180 questions are asked and answered in 134 small octavo pages.

One may be amazed that so much legislation should have been deemed to be necessary to the promotion of public health, or one may wonder what sort of a place to live in this country would have become by now if none of the Acts which the book explains so clearly had been passed into law; but such speculations being beside the question one can only congratulate Dr. Porter upon the result of his industry, and thank him for sifting all the Acts and showing what they amount to.

The book appears to have been compiled more particularly for the guidance of the Medical Officer of Health, but it will help the architect in his youth to prepare for the unsavoury part of his examinations, both at the R.I.B.A. and at the Surveyors' Institution, and in professional practice it will be handy when he has to deal with the greatest nuisance known to the law—namely, the high-handed variety of Nuisance Inspector.

J. Nixon Horsfield, F.S.I. [*A.*].

LINCOLN MINSTER.

From W. R. Lethaby [*F.*],—

I should like to thank Messrs. Bond and Watkins for their most courteous letters.* It seems to me, and I hope they will agree, that it is not a matter to be further debated, but it is a question of fact and evidence. The known facts, however presented and argued about, seem to me insufficient to make out even fair probability for their case.

As archæology is a game of first mention, may I quote what I printed four years ago ?—"the choir vault at Lincoln, I am convinced, is not of St. Hugh's work, and is not so much a step towards subdivided vaults as an attempt to make all the compartments harmonise with the first (sexpartite) bay in having six half ribs" (*Westminster Abbey*, &c., p. 373).

From George H. Widdows [*A.*],—

In company with two friends—both keen archæologists—I had the pleasure, recently, of going over Lincoln Minster with Mr. Watkins as guide. He gave up the whole of one Saturday to us, and his kindness will be long appreciated. After a careful study of the Minster we all came to the conclusion that Messrs. Watkins and Bond's theory must hold the field for the present. It is possible that the last word has not been said, but I shall be much surprised if when that last word comes to be said, it is not a development of that theory.

In the issue of the Journal for April 1, Sir Charles Nicholson seems to think that the original choir may have been vaulted. But, may I ask, would a clerestory such as shown in Fig. 5 be strong enough to carry a vault ? It may be replied that it is only an inferential restoration. True, but on the occasion of our visit we had a striking proof that Mr. Watkins' surmise was correct. It will be remembered that Mr. Watkins contends that the flying buttresses shown in Fig. 4 were a later erection and that where they abut against the clerestory there were originally windows. On the occasion of our visit we had a dull day and the space between the vault and the roof was very dark. It served, however, to accentuate the rays of light which did find their way therein. The most striking was the light coming through one of the square openings immediately above a buttress—a vent, let us call it—on the north side towards the west end of the choir. The light showed that the apex stone of one of the built-up arches had been removed to allow such vent to be formed, and the radiating surfaces of the voussoirs were plainly discernible.

Another point in connection with the vaulting is —Provided it was intended to keep the roof at its present level, would tie-beams have been used if it had been intended to vault the choir from the beginning ? Would not cross bracing and an additional collar have given more height, and would not the architect have gladly availed himself of that extra height ? This, of course, assumes that the present roof is the original one. I may be wrong, but I think it is. The timbers are uniform in size until we come to the end bay of the southern arm of the choir transept. Here they are smaller, and if this roof were put on when the end bay was raised one can understand the change. I cannot think the architect would have kept his vault so low if he could have helped it. Given the tiebeams as an obstruction there is a reason for it.

In the matter of the pigeon-holes, Sir Charles gives us an ingenious theory. But it makes one ask why, if they wanted to leave holes for scaffolding, did they go to the trouble and expense of putting in pointed arches with centering, circular-cutting, &c. ? Why not have left a stone out ? Moreover, why have put the holes immediately above the apex of an arch as in some cases (see fig. 7, page 47) ?

So far as disturbing the Canons is concerned, we must remember that the capitular Mass and the Hours would take up some considerable part of the day. Would work proceed while Divine Service was being said ? Even if mortar and stone did not find its way below, dust would, and Mass would not be said under those conditions, one thinks. Is it not more likely that some other part of the building would be used ?

One can fully sympathise with Sir Charles in his desire not to upset cherished beliefs, but there are times when old things have to be read in a new light, and I think Lincoln Minster will prove one of them.

From Francis Bond [*H.A.*],—

I am glad to see more remarks on Lincoln Minster from Mr. John Codd, whose long acquaintance with the cathedral gives great weight to his opinions, and from Sir Charles Nicholson, whose appointment as consulting architect to the Dean and Chapter will be welcome to all who are acquainted with the grace and distinction of his work. (1) Sir Charles thinks that the present choir was designed for vaulting, because the Norman nave was vaulted. But the choir is 40¼ feet wide, whereas, according to Dr. Mansel Sympson, the Norman nave was only 28 feet

*Journal, 4th March, pp. 301-7.

wide; the extra width of 12¼ feet might well give the builders pause. Also it is urged that St. Hugh, having come direct to Lincoln from the Carthusian house at Witham, Somerset, and having ordered the vaulting still to be seen there, would be likely to insist on high vaults at Lincoln. But all the vaulting left at Witham is that of a small, low chapel. As for the high vaults of Wells Cathedral, which may have been in progress and in part complete in 1192, and with which St. Hugh, while at Witham, would be likely to be familiar, it is to be noted that they belong to a type of vault unknown at Lincoln or anywhere outside the districts in which the West of England school of Gothic was at work; presenting as they do a system of ribs in which the *diagonal* as well as the outer ribs are pointed. It is with the Canterbury not with the Wells vaults that the vaults of the Lincoln choir aisles are to be correlated. To put up vaults of the Wells type, a gang of Somerset masons would have had to be imported to Lincoln; and if that had been done, they would have left signs of their presence in some of the peculiar and characteristic details of their style of work. (2) Next, it is urged that St. Hugh would be likely to copy the vaults of Durham and Canterbury Cathedrals. High vaults were built at Durham between *c.* 1100 and 1133; but very few people had the courage to do the like for nearly half a century. As for Canterbury choir, it was set out in 1175 for a high sexpartite vault; the clerestory of Lincoln choir was set out in 1192 in such a queer fashion that it was difficult to build a vault of any sort over it: if they were trying to copy Canterbury, they certainly made a dreadful bungle of it in the choir. (3) As for the recesses or "panels" of the clerestory wall, now in the pockets of the vault, Sir Charles, if I understand him, suggests that the lower part of the panels was intended to provide support for the springers of the vault-ribs. If so, then the upper portion—much the larger portion—of each panel is otiose; why, then, was it constructed? (4) As to the "pigeon-holes," I have already admitted that our hypothesis is wildly improbable, and that we shall gladly abandon it for anything more plausible. Whether Sir Charles' hypothesis is less improbable than ours I must leave to those who have practical knowledge of carpentry; it seems strange, however, that, being intended for scaffold-poles to pass through, the "pigeon-holes" are all triangular, with a straight base and curved sides. I feel it difficult to believe that St. Hugh's carpenters used scaffold-poles in section triangular and with a straight base and curved sides: I thought scaffold-poles were round. However that may be, Sir Charles' hypothesis has the merit of having inspired the amusing mediæval drawing on page 380 of the JOURNAL. I am not, however, prepared to accept the label "Sic Gaufridus chori testudinem fieri curavit," for I feel certain that Geoffry de Noiers neither vaulted it nor contemplated that it ever would be vaulted.

(5) Turning to Mr. Codd's remarks, I note that he is scarcely able to believe that all the work attributed to St. Hugh could have been built in the eight years of his episcopate. It must be borne in mind, however, that St. Hugh's work was built *without* high vaults, and that the vast eastern limb of Canterbury Cathedral was rebuilt *with* high vaults in the years 1175 to 1184—*i.e.* in nine years; and Lincoln, having stone on the spot, had great advantages as regards Canterbury. (6) I referred to the existence of circular capitals in Canterbury choir. I was quite aware that the main capitals are rectangular, but there are plenty of circular capitals also in the crypt and elsewhere. (7) Mr. Codd asks me if I have seen Clee Church. I have seen it twice in recent years. I do not feel so sure as Mr. Codd that the mouldings of the arches of the crossing are perhaps 1200 to 1210, and that they are not those of the work finished in 1192; there would be little difference in the moulded work of periods so near. (8) The facts brought forward in our Paper were not "ancient history" to us when it was written. It happened that I had not read nor even heard of Mr. J. H. Parker's second Paper in the *Archæologia* till our own Paper was in type. When I did read it, it was to find that Mr. Parker had divorced himself in a large measure from the views of Sir Gilbert Scott, and had recanted his own opinions also. On some points the statements of Sir Gilbert and Mr. Parker confirmed our own conclusions—when that was so we were thankful—on many others they did not. (9) Mr. Codd is of opinion that what we have conjectured to be the Old Chapter House is of the same date as the present Chapter House, which he puts at 1200–1215. But there is documentary evidence for a later date for the present Chapter House. The *Metrical Life of St. Hugh* has the following lines which have always been applied, and I think rightly, to the present Chapter House and the rectangular vestibule by which it is entered:

> "Astant ecclesiæ capitolia, qualia nunquam
> Romanus possedit apex; spectabile quorum
> Vix opus inciperet nummosa pecunia Cresi.
> Scilicet *introitus* ipsorum sunt *quasi quadra*
> *Porticus*; *interius spatium* patet *orbiculare*,
> Materia tentans templum Salamonis et arte."

The writer declares elsewhere that the Lincoln of St. Hugh of Avalon will be finished by St. Hugh of Wells. The latter therefore was still alive; he did not die till 1235. The work on the present Chapter House was going on before that date. In another part of the poem the canonisation of St. Hugh of Avalon is mentioned; this did not occur till 1220. The conclusion is therefore that the present Chapter House was built between 1220 and 1235, and not between 1200 and 1215 simultaneously with Essex's Chapel; this conclusion

is supported by the difference in the mouldings of the bases pointed out on page 303 of the JOURNAL. (10) Mr. Codd is of opinion that of St. Hugh's apse, ambulatory and radiating chapels nothing was ever built except foundations, otherwise an immense mass of old material would have been available, and, following all precedents, would have been re-used in the new work. To this one must reply that surely the precedents point in the main to a different conclusion. Take Lichfield Cathedral: how much of the preceding Norman cathedral is built into the present fabric? How much old material is there in York Minster, except in the crypt? How much of the old church is incorporated in Westminster Abbey? All that I could hear of at Westminster consisted of two or three fragments of capitals found loose in the floor of the nave, and a few blocks of Caen stone, which are re-used in some arches of the nave as voussoirs. However, part of St. Hugh's apsidal work is actually incorporated in the Angel choir, viz.: the panel illustrated on page 85 of the JOURNAL for 10th December 1910. At Lincoln also there was less need than elsewhere to re-use old blocks, as the quarries were only a few yards away. And the authorities at Lincoln had such vast financial resources that they could well afford to disregard economy in building the Angel choir.

CONTEMPORARY INFORMATION RELATING TO SEVENTEENTH AND EIGHTEENTH CENTURY ARCHITECTS.

It is not easy to hit upon a comprehensive title for documentary matter which I think will be of interest; for convenience I have collected it under headings distinguished by architects' names. Kenn I know nothing of beyond what is here recorded. The building contract is noteworthy, made with him, it will be seen, under the style of "architect." His patron appears to have been arranging for the materials of the house, and, judging by subsequent extracts, for labour. He was urged by Kenn to obtain elm planks for the stairs: elm was used for the treads of a secondary staircase of about this period which has disappeared from Ashburnham House. A plan for Burton House was also proposed by one Thomas Smith, and during the progress of the work Sir John Perceval wrote to Smith "the contriver at Burton." Whatever may have been the clear intention of the full contract with Kenn, of which merely an extract is supplied with the "manuscripts," from the documentary evidence available (all quoted in full below) it appears by no means certain that Kenn's plans were followed or that his contract was carried through, though, undoubtedly, the house was erected. Probably it was built with bricks burnt on the estate and Bath stone, fitted with sash windows which opened at the top as well as below. As there was little indigenous building art in Ireland the mention of a mason of the country may imply that the house was unpretentious, at least externally. From the contract with Kenn, it may be implied that it was contemplated to be on a moderate scale.

I. CAPTAIN WILLIAM KENN, ARCHITECT, 1670, AND THE PERCEVAL PROPERTY.

The greater part of the letters and papers contained in the collection of the Earl of Egmont from the beginning of the reign of Charles II. to the end of that of Anne refers to the management of the Perceval estates in Ireland. Those of especial interest collected from the Calendar and printed below introduce us to the first baronet, Sir John Perceval, who resided in Dublin and led an active life as Member of Parliament for the County of Cork, and as a leader in many charitable works. He crossed to England in June 1665 and stayed at Bath for the sake of his health, but fearing his illness might prove fatal, he returned to Ireland in the autumn, and died in Dublin in November at the early age of thirty-six. "It had been the intention of Sir John Perceval," the introduction to the Calendar relates, "to build a house at Burton, County Cork, and he employed William Kenn, an architect, in 1665 to design and make estimates of its cost. By Sir John's death, however, the project was delayed, but in 1669 Robert Southwell again opened negotiations with William Kenn, and a year or two later many details of the house which was then burnt are given. This was the house which was burnt to the ground during the Irish rebellion of 1690." Sir John's heir, Sir Philip Perceval, was a boy of but nine years of age at the date of his father's death, and the management of the estates was undertaken by Robert Southwell, Lady Perceval's father. Sir Philip died in 1680, and was succeeded by his younger brother, John, at the age of twenty.

WILLIAM KENN to SIR JOHN PERCIVAL.

1665, August 3. Liscarroll.—"I was the second instant at Church Town, where I was honoured with the company of Lieutenant Beare, and what I did there concerning the river and fish ponds he was pleased to take recognizance of; so there is no doubt of any mistake in that business. Sir, I am sorry that I did not wait on your worship at Dublin with that which I have now left with Lieutenant Beare, which is two ground plots, and the upright of the middle part of the intended building, with the manner of one of the windows, as also an estimate of what the mason, bricklayer, carpenter, carver and sawyers work will amount to to erect such a pile. I saw two frames (that I suppose came from England) which are to open wholly from top to bottom, but according as I understood from your worship the windows intended for your building would be ten feet high, this not eight. Sir, if the draft I left come to your hands and not please you, I hope by your worship's coming into these parts (which I heartily wish, and that ere long) I shall have that in readiness

which will. The brickmaker, instead of well burning the brick, has overdone them; there is no clinker but most of an iron colour; the outsides and the top course are brick, for use which I have seldom seen (for most commonly they are 'semile').

"Dear Sir, you are now in the place where the best free-stone in England is to be had. Some may be transported hither for your worship's use; sheet lead and square bar iron for the cellar windows, &c., may be had in Bristol, as also elm and elm-plank for the stairs, which are all to be through cut in 'leaves and antics,' as (I believe) your worship has often seen in balconies in London. Sir, I could heartily wish I might receive a line or two from your worship to know your resolution for the next year, whether to build or not, that I may not (if please you to accept of me) dispose of myself any other way, for, Sir, if I am able to serve you in anything, I beseech you to be confident that I will do it to the best of my power. This with my humble service presented to your honour and my Lady.

"Sir, linseed oil and colours for all the work may be had at a far easier rate in Bristol than here. I do therefore desire your worship to provide whilst you are in England those things, as also glass and some pig-lead."

Capt. William Kenn to Robert Southwell.

1669, May 3. Burton.—Giving details of a design for a house intended to be built in the Park.

Richard Conron to Robert Southwell.

1669, June 19. Burton.—Cahere the mason is not in this country; he has taken a great task about some iron works that is setting up about Carrigenedy, and has taken the workmen of these parts with him.

Contract for a House at Burton, Co. Cork.

1670, September 27.—"Articles of agreement made this 27th of September, 1670, for the building a house in the manor of Burton, in the barony of Orrery, neare Churchtown, and in the county of Cork, by and between Robert Southwell, Esq., and of Kinsale and of the county aforesaid of the one part, and William Kenn of Cahernary, in the county of Limerick, architect, of the other part, do agree to all ensuing, viz. :—

"That the said William Kenn shall build at the place aforesaid a house, whose length outside shall be 76 feet, breadth outside shall be 57 feet, the height from the upper part of the hall floor to the wall place 30 feet and a half; the walls to be made with stone, lime and sand, the outside walls to be three feet and a half in thickness, the middle wall to be seven feet in thickness for the first storey and three foot for the outward walls for the second storey, and the same thickness for the middle wall, which must rise higher than the outer walls, six feet. In this wall there must be placed 12 chimneys, viz.—four in the hall storey, four in the diningroom storey, and four in the garret, and all the said chimneys to be made in proportion to the several rooms, and to rise by shafts of brick seven feet above the top of the roof, the shafts standing from each other ten inches."

Burton House.

1670[-1], February 7.—Proposed plan by Thomas Smith of the above with notes.

Richard Conron to Robert Southwell.

1674, July 15. Burton.—I have a great deal of stone brought home and three great beds of mortar made, containing 2,500 barrels of lime, and am fitting for the burning of another kiln. Our brick is not yet burnt. We have had a great deal of rain, which hardened it.

Sir Robert Southwell to Sir Philip Perceval.

1679, June 28. Spring Garden.—Urging him to purchase Nash House, near Bristol, for 2,400*l*.

Sir John Perceval to Mr. Smith, "contriver at Burton."

1681-2, January 7. London.—I have been hitherto in expectation of the measures you promised to send me of the rooms in Burton House, as to the height, breadth and length of the rooms, the positions, height and largeness of chimneys, windows and doors in which you may, if you please, follow the proportions intended to be used where any alteration will be made. Proposals to alter the passage out of the intended diningroom into the drawingroom and make other alterations.

Thomas Smith to Sir John Perceval.

1681-2, January 31. Burton.—Giving particulars as to the progress of the works in Burton House.

Sir John Perceval to Mr. Smith.

1681-2, February 25. London.—Approving of certain alterations to the house at Burton and suggesting others.

W. Fitzgerald to Sir John Perceval.

1682, November 7. Cork.—"Yesterday and this have proved busy days that I could not be fully informed of what your town affords for your use; there are iron bricks for chimneys, if you send word how many, and of what size, they shall be bought; the price is about 2*d*. per pound, they ask somewhat more."

The Garden at Burton.

1683, November 24.—Contract by John Barbor to Sir John Perceval to level the garden at Burton.

Robert Henley to Sir John Perceval.

1683, November 26. Bristol.—I send you a parcel of young elms, I think about 70 or 71, nor have I forgot my lady's pippens.

Bill for Trees for Sir John Perceval.

1683, December 5.—For 100 lime trees, 200 Dutch elm trees, 36 peaches and nectarines, 18 figs, 30 apricots, 15 pears, 37 plums, 40 cherries.

Philip Madox to Sir John Perceval.

1684, April 10. Whitehall.—According to your directions I now enclose you an ounce of Scotch fir seed, which cost 5*s*.

Alderman John Desminieres to Sir John Perceval.

1684, June 3. Dublin.—"I am your tenant of your house in Bridge Street, and I have long expected your coming to this city that I might treat with you for the renewing of my lease, which is now expired. It is a very old house, and your grandfather bought it for such, for he gave for it and two houses more but 227*l*. in the year 1636. I have been a good tenant and have maintained your interest as much as any man could do, and often paid my rent beforehand, and I have paid for rent of this house in all near 900*l*. I have laid out some money on it to keep it up, but now there is a great part of it which must be pulled down to the ground and rebuilt. Now, sir, if you will be pleased to be kind to me and to renew my lease on reasonable terms I will lay out some more money on it, although there is no encouragement for laying out in this part of the city, the trade being all gone to the new parts of this city, by reason of the markets being removed thither, so that all rents hereabouts are mighty fallen, for Sir William Parson's house that was set formerly for 110*l*. per annum is now set but for 45*l*. per annum. I am offered

houses in several places in the new city, as also ground to build on, at very easy terms, but I had rather deal with you if you be pleased to use me kindly. Your father and your grandfather Southwell often promised me that I should have a new lease (whenever I requested it) on very good terms. I do persuade myself that you will be no worse to me than they intended to be, for you have the character of a good landlord."

A Narrative of Sir Robert Southwell's Management of the Estate and Affairs of Sir John Perceval, Bart., and also of his son, Edward, 1686 to 1693.

. . . . . .

During the disturbances in Ireland some of the Irish tenants who were in the militia under King James were invited by Mr. Taylor, the agent of Sir Robert Southwell in Ireland, to Burton House, in order to preserve it and to secure his wife and children from the frights and ill-consequences which might happen from rapparees, who were very numerous in those parts, preying where they could, notwithstanding which care the house was plundered at noon-day and scarce any of the goods saved. After that King James' forces were beaten at the Boyne and totally routed, the seat of the war was removed to Munster, the said mansion house and estate lying in the County of Cork was not far from Limerick, and in the enemy's quarters, the said mansion house, with about fifty substantial houses and smaller habitations of tenants, as also the villages of Kanturk and Churchtown, were laid in ashes; much of the woods on the estate were destroyed, and a great quantity of sound oak timber destroyed.

. . . . . .

II. James Gibbs and his Friend, Sir John Perceval, 1707-8-9.

The Sir John Perceval here concerned, like other members of the family, was fond of music; and, after travelling on the Continent and in Italy, he patronised the Fine Arts. His other correspondence with Gouge and correspondence with Laurence Magnolfi, both painters, is in the Egmont collection.

Sir John Perceval to Mr. Gouge.

1707, October 17. London.—You told me you could not begin any work for me till June or July because of several Retraltos you had to do. You will give me a pleasure now to let me know how far you are advanced for me. I suppose you begun with something in Caraches Gallery, for that was your intention. I hope the English gentlemen I left at Rome are well, and that Mr. Gibbs finds scholars to his mind. Mr. Trench, too, I hope, minds his business and improves. I have showed the ivory Cæsars heads which I bought at Rome to several gentlemen, who admire them.

Ja. Gibbs to Sir John Perceval.

1707, December 3. Rome.—"I heard by Mr. Gouge's that you are not as yet forgetful of your humble servant; that you hope I have a great many scholars. I believe truly, Sir John, I shall have very few like you. I believe there will come to Rome very few that will leave such a notable character behind them as your worthy person has done. When you went away I am sorry I did not go along with you, though it had been to carry a livery in your service, for things go so ill here, and there is such a pack of us, and so jealous of one another, that the one would see the other hanged, that for my part, if it please the stars, I will make my stay as short here as possible.

"The reason why I did not beg of you to take me along with you was that I might stay some short time longer to perfectionate myself in this most miserable business of architecture. However, Sir John, if I can be any way serviceable to you here, or in England, I will be very proud to have the honour to be enrolled amongst the very lowest of your servants.

"We have English gentlemen here: Mr. Parrot, Mr. Harcourt, Mr. Mullineux, Mr. Lile, Mr. Casleton, Mr. Batters and his governor, Mr. Douns, Sir Thomas Samuel and his tutor, a French gentleman, and Mr. Furnace is expected to-morrow. There is expected likewise a great many more here, because it is reported we shall have a carnival, and likewise a Cannonitatione of Beata Catarina di Bolognia. I must likewise acquaint you of Ficarone, your antiquary's imprisonment. They say it was for buying a necklace of the Queen of Poland that was found. The necklace was worth five hundred crowns, and he bought it for one hundred. They say it will go hard with him.

"Mr. Trench goes on in his study very well; he has wrote to you here inclosed within mine. We are all mindful of you when we are together in our cups. You will be pleased to present my hearty service to Mr. Clerk. If you will be pleased to honour me with a line from you, you will be pleased to direct it to Mr. Brown, otherwise I believe it shall not come to my hands. Dear Sir John, I recommend myself again and again to your worthy protection, and hope no misbehaviours shall be done by me unworthy of the same."

1708-9, February 10. London.—"I have indeed a great many very good friends here, and that of the first rank and quality in England, and with time I do not doubt but are able and willing to do me very great services in my way; but their promises are not a present relief for my circumstances, and it is even uncertain what time itself may produce, for great men's promises are not to be depended upon, when there are so many gaping and pretending for any little place that is vacant, whether in my way or otherwise, so that it is seldom or never considered if a man be qualified for such a post, but what friends or money he has, which never fails, without any regard, or seldom, to merit. So truly, I think it best not to lose certainty for good hopes, and embrace your most kind favour and prefer your most honourable patronage and protection before the promises of the greatest quality here in England. It is true I wish the thing was greater, but *Felix qui potuit contentus vivere parvo.* The esteem and love I bear your most worthy person is so great, as I vow in the presence of God, that I do not consider the least advantage, so only that I may be in the place where you are; so that I will do my endeavour to set out the first of March, and then, as soon as possible, I hope to have the honour to see you once more whom I esteem the greatest friend I have in the world.

"As to my religion, you may be pleased to conceal it as much as possible, and I can assure your honour that there shall no trouble ensue to myself or others by the same; and as to my conduct, it shall be such that I promise there shall be nothing done contrary to the honourable character you will be pleased to give of me. And when you see Mr. Tighe and Mr. Clerke you will be pleased to honour me by giving them my most humble service till I have the honour of seeing you and them in Dublin, I hope within six weeks."

1708-9, February 12. London.—"I acquainted the Earl of Mar, my countryman, that is very much my friend, that I had a design to go for Ireland, being I had no encouragement here, and I acquainted him what

I thought I might make. He told me that I was very much obliged to your honour for the service you had done me, and that he did not doubt but altogether you were entirely my friend, and did not doubt but I might do very well in Ireland, but that England was the only place to raise a man of my employment, so that if I pleased to accept of a commission in a garrison of his at Sterling Castle it should be at my service. He added that I could be always, or for the most part, here in London, so that I had little or no duty to do, and that I might follow out my business; and if that you thought fit he would give me leave to come over and see your honour in the summer time for a month or two, if I could be any way serviceable to you in my way. This post will be about four shillings a day, but his lordship has promised to make it as yet more, and I do not doubt, by some expressions he was pleased to use, but that within a short time he may advance me, besides the advantage of being always with his lordship. In fine, my lord has expressed too much kindness to doubt anything of the goodness of his intentions, and is one of the best friends I have in the world next to your most worthy person. This offer being so very advantageous I thought I could not do better than take your advice upon it. I am entirely to be determined by you, and desire you would choose for me, knowing I cannot be more desirous of what will be more for my interest than you will be. So, most worthy Sir, I expect your advice with the first occasion, and if you are pleased to choose for me the Earl of Mar's offers, you will be pleased to acquaint me if I can be any way serviceable to your honour or Mr. Tighe, for I hear you are both about building. I shall have liberty from my Lord of Mar to come over for a time, and have the honour to kiss your hands; but if it is not your will that I have that honour, I beg a continuance of your favour and friendship, being the thing I most value in the world."

III. Mr. Alderman Bell, of Lynn, Architect.

Peter le Neve wrote a suggested itinerary for Sir John Perceval, dated June 24, 1701, giving particulars of the places in the eastern parts of England which he ought to visit. In the course of this he says: "But I hasten to Lynn. The river, the church and several other things may be observable here, to which you may be directed by Mr. Bell, Alderman, if you please to use my name, he being an ingenious architect." This, I think, an interesting reference to an architect of whom but little is known. In connection with Raynham, we are told of one of the Townsends, the first peer, who was very gouty, and contrived a staircase, and an engine in it, that he could convey himself up to any floor of the house.

Mr. Winstanley.

Previous to this, Audley End (within the parish of Great Walden), built on the ruins of Walden Abbey, is not overlooked, and Sir John is told of Littlebury, the next town, "in which lives Mr. Winstanley, builder of the lighthouse on the Eddystone by Plymouth, and the ingenious contriver of the water works by Hyde Park Corner. I will not undertake to describe the several pretty diversions you will meet with in this house and gardens," le Neve observes; "you will find great diversion in the view, the charge not much."

Harry Sirr [*F.*].

CORRESPONDENCE.

The Copyright Bill and Architecture.

Kensington, W.: 15*th April* 1911.

To the Editor, Journal R.I.B.A.,—

Dear Sir,—I read with interest the letter from "A Fellow" *re* "Architectural Copyright" in the last issue of the Journal, remembering that it is somewhat over a year since I ventured in your columns to make a suggestion to members regarding the matter. As the result of prompt co-operation of members, Allied Societies, and the Society of Architects, replies were received from the following Members of Parliament in answer to the question whether they would favourably consider and support a Bill to give effect to the recommendations of the Law of Copyright Committee 1909, *more particularly as applied to architecture.*

The following Members of the present House of Commons said they would support a Copyright Bill to include architecture :—

Name.	Constituency.
Bruce, W.	Glamorgan, South.
Burgoyne, Alan H.	Kensington, North.
Cave, G., K.C.	Kingston.
Clyde, J. A., K.C.	Edinburgh, West.
Gore, Hon. W. G. A. Ormsby-.	Denbigh.
Hamersley, A. St. G., K.C.	Woodstock.
Hardie, J. Keir.	Merthyr Tydfil.
Knight, Capt. E. A.	Kidderminster.
Lyttelton, Hon. J. C.	Droitwich.
Money, L. G. Chiozza.	Northants, East.
Neild, H.	Ealing.
Robertson, J. M.	Tyneside.
Short, E.	Newcastle.
Strauss, A.	Paddington, North.
Thomas, A., K.C.	Carmarthen, East.
Williams, Capt. E. Crawshay-.	Leicester.

The following Members said they would favourably consider a Bill :—

Name.	Constituency.
Brassey, H. L. C.	Northants, North.
Bart, Right Hon. T.	Morpeth.
Ferguson, Rt. Hon. R. C. Munro-.	Leith.
Gilmour, Major J.	Renfrew, East.
Hickman, Col. F. E., C.B., D.S.O.	Wolverhampton, Sth.
Horne, W. E.	Guildford.
Macdonald, J. R.	Leicester.
McLaren, F. W. S.	Spalding.
Morgan, G. H.	Truro.
Rice, Hon. W. F.	Brighton.
Valentia, Viscount.	Oxford City.
Willoughby, Major the Hon. C. H. O.	Stamford.

The following Members said they would consider a Bill :—

Name.	Constituency.
Balfour, R.	Partick.
Barnes, G. N.	Glasgow, Blackfriars.
Beach, Hon. M. A. Hicks-.	Tewkesbury.
Davies, M. L. Vaughan-.	Cardiganshire.
Harris, H. P.	Paddington, South.
Haslam, Lewis.	Monmouth District.
Jones, E. R.	Merthyr Tydfil.
Roberts, Sir J. H., Bart.	Denbighshire, West.

The following Members either spoke on or supported the second reading of the Copyright Bill :—

Name.	Constituency.
Agnew, Sir G. W., Bart.	Salford, West.
Balfour, Right Hon. A. J.	City.
Birrell, Right Hon. A., K.C.	Bristol, North.
Buxton, Right Hon. S. C.	Poplar.
Craik, Sir H., K.C.B., LL.D.	Glasgow and Aberdeen Universities.
Harcourt, Right Hon. L. V.	Rossendale.
Lynch, A. A.	Clare, West.
Simon, Sir J. A., K.C.	Walthamstow.
Tennant, H. J.	Berwickshire.

The following Members opposed the second reading :—

Name.	Constituency.
Anson, Sir W. R., Bart.	Oxford University.
Booth, F. H.	Pontefract.
Hicks, Joynson	Brentford.
Parker, Sir H. G. G.	Gravesend.
Roberts, G. H.	Norwich.

The Right Hon. Sydney C. Buxton, moving the second reading on the 7th inst., truly remarked that people very often only think of books in talking of copyright, and pointed out that the general basis of the Bill is to define copyright clearly and simply, not only in books, but in painting, engraving, music, sculpture, architectural works of art, dramatic works, and artistic works generally.

Later on he said: "As regards architectural works of art, the Berlin Convention proposed that works of art in architecture should be brought under copyright protection. This is a difficult question, and not one which I am prepared to discuss at the present moment, but it is a legitimate one to discuss upstairs in Grand Committee."

Personally I have some doubts as to what may occur "upstairs," and I would remind "A Fellow" that architects have not yet obtained that definite interest in the legal estate of the realm which should be theirs as of right, and I would therefore suggest that every architect who has taken up this matter should see, or anyway write to, his "Member" and remind him of his promised support to or favourable consideration of the inclusion of "Architecture" in the "Copyright Bill."

I cannot more fitly conclude this letter than by reminding architects of the very weighty and considered words of Mr. John W. Simpson, to whose able and untiring efforts on behalf of Architectural Copyright the whole profession is indebted. Mr. Simpson writes: "One word to my brother architects in conclusion. The very able men—those whose fertile brains teem with fresh ideas, whose brilliant attainments secure them constant work, which they vary and improve with every new opportunity—are not the men who most need the protection we are seeking; nor are they likely to avail themselves of it save under such flagrant circumstances as may render their action a duty to their profession. But there are others less gifted—very honest men striving to fulfil their obligations to the State and to their employers by means of their work—to whom the measure proposed will be a boon. Though the aristocrat of art, secure in the knowledge of limitless reserves at his own disposal, may disdain to guard his treasure, let him not therefore deprive his humbler brother of the protection he desires for his smaller store.

"The responsibility of architects who oppose the present effort to secure their rights—recognised as legitimate in other countries—in the reproduction of works they have created will be very great. If the opportunity now offered for their inclusion in the Act which will re-settle the whole law of copyright in this country be lost, it will certainly not be found again for many years to come—if at all."

Yours faithfully,

HERBERT SHEPHERD [*A.*].

Inigo Jones.

Mostyn Estate Office, Llandudno, 5th April 1911.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—Will any of your readers give me particulars of existing portraits of Inigo Jones, and where they may be seen? Richard Llwyd in his *Beaumaris Bay*, 1832, wrote :—

"I remember seeing, when in town, a half-length portrait of him, with arms of the Trevors in the usual corner, so that he must have descended from Tudor Trevor, founder of the sixteenth tribe of North Wales."

According to Pennant, in his 1796 *History of the Parishes of Whitford and Holywell*, p. 313 :—"Tudor Trevor, the tribe of March, was the son of Ynyr ap Cadfarch, descended of Cadell Deurnllug, King of Powys. . . ." and on p. 314, Pennant describes the arms as "parted per bend sinister ermine and erminese, over all a lion rampant or; the well-known arms of the Mostyns, and also of the Trevors."

Any information will be appreciated.

Faithfully yours,

G. A. HUMPHREYS [*F.*].

The Proposed London Museum.

In response to a number of inquiries by Mr. Lough regarding the proposed London Museum, Mr. Lewis Harcourt has supplied the following printed statement:—"The fund for the London Museum was a personal gift to me by a donor who wishes to remain anonymous, and the sum available is also a secret. I have been for many months in close communication with the officials of the London County Council and others interested in the history and antiquities of London on this subject. I should be happy to lend my right honourable friend a French book describing the foundation and contents of the Musée Carnavalet in Paris. The three Trustees appointed by the King will be responsible for the control of the Museum. The Hilton-Price collection was purchased by me on my own responsibility at a price which is believed to be considerably below both its cost and value, and I have had throughout the friendly assistance and advice of the officials of the British Museum."

9 Conduit Street, London, W., 22*nd April* 1911.

CHRONICLE.

The Meetings of the 10th April.

The Business Meeting and the Special General Meeting called for the 10th April were duly held on that date, and the course of proceedings and the Resolutions passed will be found recorded in the Minutes printed at pp. 438-440.

The Annual Dinner 1911.

The Annual Dinner of the Royal Institute will be held this year on Tuesday, 4th July, at the Fishmongers' Hall, by the courtesy of the Worshipful Company of Fishmongers. The Council are very desirous that the festival, taking place as it does during the period of the Coronation festivities, should be the occasion of a large and brilliant gathering, and they are hopeful that it will be well supported by Members and Licentiates. The price of tickets is 25*s.* for members and their men guests, 21*s.* for lady guests, this charge being inclusive. It would be a convenience if members would give the names of their guests when applying for tickets and also intimate the names of friends near whom they desire to sit, so that in arranging the table plan their wishes may be met as far as possible. All applications for tickets, with cheques, should be addressed to the Secretary.

The Proposed St. Paul's Bridge.

Mr. H. C. Corlette [*F.*], in the April number of the *Journal of the Imperial Arts League*, writes :

In the proposal to build a new bridge across the river the City of London contemplates a great adventure in modern art. It is a vast conception in enterprise, in finance, and in science. And we may be permitted to express the devout hope that it may be so conceived, so executed, as to be an equally great achievement in creative art. The latter can only be realised by the just consideration of the scheme in all its utilitarian bearings. But unless these are worked out, and satisfied, as necessary parts of the greater whole we may have essential utility but none of the equally desirable beauty. And surely not Londoners only, not the people of England alone, but those of the whole Empire have not merely the right but the duty put upon them of saying, Give us a solution of this problem which shall satisfy all our needs as well as our best aspirations. And in this year of a Coronation and of an Imperial Conference let it not be said that legislation has sanctioned what common sense must decry, and art, if it had a voice, deplore. The members of this Imperial Arts League should know and use their best efforts to support the unaided attempt of the Royal Institute of British Architects to justify its existence as a public and representative body, able, and willing, to speak on behalf of that comprehensive mistress of all the arts—the art of Architecture. But let it not be thought, much less said, that the Council of that body are acting from any but the highest motives as the spokesmen of artists, and a body of artists who are also practical men, all over the Empire. What is their plea ? Or, in the words of their petition to the House of Commons, for what do they "humbly pray" ? Simply this : that the Bill now before Parliament may not be enacted, because if passed it would sanction the execution of a half-considered scheme, productive of a great and costly bridge but destructive of an unusual opportunity. And as the evidence of the architect in charge of St. Paul's Cathedral can show, the proposition as it now stands may quite possibly involve the fabric of that building in serious danger from subterranean excavations. It is therefore not without reason, not without previous effort to induce the Corporation of London to admit the need of a full consideration both from the artistic as well as the practical aspects of the case, that the Royal Institute of British Architects now opposes the Bill. In taking up this position in the public interest the Council state in their Petition that the Preamble of the Bill, so far as it relates to matters dealt with in that Petition, "cannot be substantiated by argument or evidence." It is therefore to be hoped that this expression of a desire to support the effort and the public spirit of architects, acting as a corporate body, may lead others to make some attempt to show that they too feel that great interests, artistic as well as practical, are involved in this adventure.

The Regent Street Building Line.

The Improvements Committee of the Westminster City Council report that they have had an intimation from the London County Council of an application for consent to new building lines for portions of Glasshouse Street, the Quadrant, Piccadilly, Piccadilly Circus, and Regent Street. The plan shows a straightening of the building line of Regent Street from Jermyn Street to Piccadilly Circus, some land being given to the public way and other land taken from it. The corner of Messrs. Swan and Edgar's premises is proposed to be set back some twelve feet, and the land added to the public way, while a small strip on the west side of Regent Street is to be taken from the footway. The plan also shows a rebuilding of the existing columns of the County Fire Office in slightly altered positions, and a slight setting back of the building line on that side of Regent Street, while it is proposed to provide a short passage way for foot passengers under the corner, at the junction of Regent Street and Glasshouse Street. A narrow strip of land on the south side of Glasshouse Street is taken from the footway at that spot. The Improvements Committee of the Westminster Council consider the application objectionable, and are suggesting certain modifications.

Educational Lectures on Reinforced Concrete.

The Concrete Institute is arranging for a course of six educational lectures on Reinforced Concrete, to be delivered by Mr. R. W. Vawdrey, B.A., Assoc.M.Inst.C.E., M.C.I., at 5.45 P.M., on Monday, May 1, and the following Wednesdays, May 3, 10, 17, 24, and 31, 1911. The first lecture will be given in connection with the International Building Trades Exhibition at Olympia, West Kensington. The other five lectures will be given in the Lecture Hall of the Concrete Institute, at Denison House, 296 Vauxhall Bridge Road, Westminster (close to Victoria Station).

The lectures, which will be of approximately one hour's duration and be illustrated by diagrams and lantern slides, have been promoted by the Concrete Institute with the object of educating the architectural and engineering professions in some of the principles of reinforced concrete. They will be of an elementary character, and will deal with the advantages and limitations of the material; the principles of the design of columns, piles, beams, cantilevers, slabs and arches; the determination of the external forces acting on a reinforced concrete structure; effect of a monolithic structure; general arrangement of a building; different types of design for footings, columns, rafts, floors, retaining walls, water towers, reservoirs, bridges, bins and domes; workmanship and supervision. There is no fee for the course; admission will be by ticket obtainable on application from the Secretary, Mr. H. Kempton Dyson, The Concrete Institute, Denison House, 296, Vauxhall Bridge Road, Westminster, S.W.

The Concrete Institute has recently established a Students' Section in further fulfilment of one of its chief objects—viz. the advancement of the knowledge of concrete and reinforced concrete and of their constituents, and the directing of attention to the uses to which these materials can be best applied.

Artistic Control over City Architecture.

A Bill creating an Art Commission for the city of Pittsburg provides for a body of nine members to be appointed by the Mayor and to serve without compensation. The Commission is given jurisdiction over the erection of all public buildings costing fifty thousand dollars or over, and of bridges costing over twenty-five thousand dollars. Designs for structures erected on public property, such as monuments and memorials, must also be submitted for the approval of the Commission. Some of the Pittsburg papers find fault with the Bill on the ground that "the Commission's powers are too restricted and that it has no authority to prevent the erection of architectural monstrosities other than those promoted by public funds." A movement is already on foot to enlarge the powers of the Commission so as to include not only municipal but all other architectural and art works to be erected in the future.

Transactions of the Town Planning Conference, October 1910.

The volume of "Transactions" of the Town Planning Conference held in London under the auspices of the Royal Institute from the 10th to the 15th October last, is now published. It consists of 850 pages, including over three hundred illustrations, and comprises a complete record of the proceedings, together with a selection of illustrations shown at the Meetings, and of plans, drawings, and models exhibited at the Royal Academy and the other exhibitions. The following is a complete list of the Contents :—

PREFACE, by John W. Simpson [*F.*], *Secretary-General.*

PART I.—Record of the Conference.—Lists of Representatives and Members.—Inaugural Address by the Right Hon. John Burns, President of the Local Government Board.—Address by the President, Mr. Leonard Stokes.—Reports of Visits and Excursions. Speeches at the Banquet.—Portraits of Chief Officials and Authors of Papers.

PART II.—Full Text of Papers read or presented, with Illustrations, and Verbatim Reports of Discussions, the whole revised by the Authors.

SECTION I.—CITIES OF THE PAST.

The Hellenistic Period, by Professor Percy Gardner, LL.D., F.S.A.

Town Planning in the Roman World, by Professor F. J. Haverfield, LL.D., F.S.A.

Rome, by Dr. Thomas Ashby, Director of the British School at Rome.

The Development of Town Planning during the Renaissance (XVI.-XVII. Century), by Dr. A. E. Brinckman (Aachen).

The Foundation of the French and English Gothic Towns in the South of France, by Dr. Brinckmann.

SECTION II.—CITIES OF THE PRESENT.

Town Planning and the Preservation of Ancient Features, by Professor Baldwin Brown, M.A. [*Hon. A.*].

Cities of the Present as Representative of a Transition Period of Urban Development, by Charles Mulford Robinson.

Notes on the Regulations governing the Planning and the Design of Buildings within the City of Paris, by Louis Bonnier, Architecte-voyer-en-chef de la Ville de Paris, Président de la Société des Architectes diplômés par le Gouvernement.

Cause and Effect in the Modern City, by H. V. Lanchester [*F.*].

SECTION III.—CITY DEVELOPMENT AND EXTENSION.

The City Development Plan, by Raymond Unwin [*F.*].

The Growth and Development of Towns, by Augustin Rey, S.A.D.G.

City Development, by W. E. Riley [*F.*], R.B.A., M.Inst.C.E., Superintending Architect of Metropolitan Buildings.

Recent Progress in German Town Planning, by Dr. Ing. H. J. Stübben, Geheimer Oberbaurat.

The Greater Berlin Competition, by Professor Dr. Rud. Eberstadt.

SECTION IV.—CITIES OF THE FUTURE.

The Immediate Future in England, by Professor C. H. Reilly, M.A. [*F.*].

The City of the Future, by Eugène Hénard, S.A.D.G., Architecte de la Ville de Paris.

A City of the Future under a Democratic Government, by Daniel H. Burnham.

Cities of the Future: their Chances of Being, by L. Cope Cornford.

SECTION V.—ARCHITECTURAL CONSIDERATIONS IN TOWN PLANNING.

The Architect and Town Planning, by Professor Beresford Pite [*F.*].

Town Planning in Relation to Old and Congested Areas, by Arthur Crow [*F.*].

Public Parks and Gardens, by T. H. Mawson [*Hon. A.*].

The Architect and Civic Ornamentation, by E. A. Rickards [*F.*].

Open Spaces and Running Waters, by Colonel G. T. Plunkett, C.B., R.E. retired.

Open Spaces, Gardens, and Recreation Grounds, by Basil Holmes.

City Improvements, by Professor S. D. Adshead [*F.*].

Some Factors in Town Planning, by Sir William Richmond, K.C.B., R.A. [*Hon. A.*].

The Restraint of Advertising, by Richardson Evans, M.A., Hon. Sec. S.C.A.P.A.

Town Planning and Town Training: The Scope and Limits of the Town Planning Act, by a Member of the Conference.

SECTION VI.—SPECIAL STUDIES OF TOWN PLANS.

The Civic Survey of Edinburgh, by Professor Patrick Geddes.

The Planning of Khartoum and Omdurman, by W. H. McLean.

The Federal Capital of Australia, by John Sulman, F.R.I.B.A.

Greater London, by G. L. Pepler, F.S.I.

The Maintenance of the Fortifications and of the Zone subject to Military Regulations, Paris, by Louis Dausset, formerly President of the Municipal Council of Paris.

Rural Brussels, by E. Stasse and H. De Bruyne.

Glasgow City Improvements, by A. B. McDonald, M.Inst.C.E., City Engineer, Glasgow.

The Improvement of Trafalgar Square, by Wm. Woodward [*F.*].

SECTION VII.—LEGISLATIVE CONDITIONS AND LEGAL STUDIES.

The Growth of Legal Control over Town Development in England, by H. Chaloner Dowdall, M.A., B.C.L.

The Public and the Private Surveyor: their Respective Parts under the Housing and Town Planning Act, 1909, by Sir Alexander R. Stenning [*F.*].

The Housing and Town Planning Act, 1909: The Possibilities of Section 44, by Harry S. Stewart.

Town Planning and Land Tenure, by C. H. B. Quennell, F.R.I.B.A.

Town Planning *ab initio*, by Elizabeth Howard.

Town Planning Work and Legislation in Sweden during the last Fifty Years, by Dr. Ing. Lilienberg, of Göteborg, Sweden.

Italian Legislation respecting the Planning of Building Areas, by Avv. Mario Cattaneo (Milan).

PART III.—Illustrations of Plans, Drawings, and Models exhibited at the Royal Academy, the Royal Institute of British Architects, and the Guildhall, with descriptive and critical notices, by H. V. Lanchester [*F.*], and Raymond Unwin [*F.*].

Specially bound copies may be had at the Institute, price 28s. net.

The Modern House and Cottage Exhibition, Gidea Park.

The National Housing and Town Planning Council have issued a booklet giving further particulars of the Modern House and Cottage Exhibition to be held under the presidency of the Right Hon. John Burns, M.P., at Gidea Park, Squirrel's Heath, from June to September next. The promoters claim that as an experiment in town planning and improved design and construction of dwellings, the Exhibition will have special interest for all who are concerned with architecture and the provision of an improved type of house to meet the needs of those who wish to live in a suburban district under Town Planning conditions.

The objects of the Exhibition are (1) to demonstrate the most recent developments in house building and house equipment; (2) to improve the standards of housing for Outer London by obtaining the assistance of architects of the highest standing in designing and fitting small houses (to cost £500), and cottages (to cost £375). These are the classes of dwellings of which nine-tenths of Outer London must necessarily be built. Hitherto they have been usually erected without skilled assistance. A further object is the laying out of gardens which, in their planning and planting, are in artistic relation to the houses and cottages to which they belong.

The Exhibition, it is stated, will represent the best procurable skill of architects, builders, and garden designers at the present day. It will consist of 140 completely finished, and in many cases furnished, houses and cottages, the site occupying a larger space than the White City Exhibition at Shepherd's Bush.

The Exhibition will demonstrate to housing authorities, builders, and the public generally, many recent improvements in house building from the point of view of health and convenience and the extent to which the modern revival of arts and crafts has made it possible to obtain soundly-built, artistic houses at a moderate cost. The Exhibition, it is hoped, will stimulate further efforts for the improvement of housing conditions in this country.

One thousand guineas in prizes have been offered to exhibitors by Sir Herbert Raphael, Bart., M.P., in the following classes:—Nos. I. to VI. for Architects; No. VII. for Builders.

I. Detached House, to cost £500:—First prize, Gold Medal and £250; second prize, £100.

II. Detached Cottage, to cost £375:—First prize, Gold Medal and £200; second prize, £100.

III. The best Internally Fitted House or Cottage:—Prize of £50.

IV. Town Plan of Gidea Park:—First prize, £100; second prize, £50.

V. Garden Design for a House or Cottage:—First prize, £25; second prize, £10.

VI. Perspective Drawing, suitable for reproduction, of a House or Cottage entered for Competition:—First prize, £10; second prize, £5.

VII. For Excellence of Workmanship and Construction in the erection of a House or Cottage :—First prize, Gold Medal and £100; second prize, £50.

The Judges are Messrs. E. Guy Dawber [*F.*], Mervyn Macartney [*F.*], and H. V. Lanchester [*F.*].

The official catalogue, a handsome quarto volume of 150 pages, contains full descriptive illustrations and plans of 140 houses and cottages now being built by the Exhibition, and will be sold at the popular price of one shilling.

A series of Conferences on Architecture, Town Plans, Technical and Constructional Building Work, Housing, &c., will take place during the Exhibition.

Victoria and Albert Museum.

The Department of Architecture and Sculpture has recently acquired two important examples of early French Gothic art, which are now on view in Room 8, immediately to the right of the main entrance. One of these, a cluster of five detached grey marble shafts with united bases and capitals of stone, is said to have come from Villemer, a little village between Fontainebleau and Nemours, where it appears to have stood at the corner of a small cloister; the boldly cut foliage and grotesque heads on the capitals are of a very early type, recalling the similar work on the North door of Chartres and the West door of Notre-Dame at Paris in the first half of the thirteenth century. The other is a beautiful early fourteenth century statue in sandstone of the Virgin and Child, said to have come from Ecouen; the type is a traditional Parisian one, and the treatment of figure and drapery is closely akin to that in the admirable reliefs on the northern apsidal chapels of Notre-Dame, which were probably executed between 1296 and 1316 under the direction of Pierre de Chelles. The upper part of the body of the Child is unfortunately lost, but in spite of this the statue is a singularly charming example of the mediæval sculpture of the Ile-de-France at what is perhaps the most gracious point in its development.

Whitgift Hospital, Croydon.

The President of the Local Government Board has informed the Croydon Borough Council that the Board will withhold their approval from any scheme for a further widening of North End which will involve interference with the buildings of the Whitgift Hospital on the east side of the road. The Borough Council have agreed to suspend the matter for six months in the hope that an alternative scheme may be framed, and at a minimum of outlay, in connexion with the contemplated relief road from Thornton Heath through Waddon and Haling, to the west and south, and so to the main road near Purley.

An interesting exhibition illustrating local history was held last month in the Town Hall at Croydon. It included a number of prints and etchings relating to the archiepiscopal palace whose existing remains are of a fragmentary nature, as well as several portraits of Archbishop Whitgift, one of which was discovered only this year in an Essex village library. The *Times* of the 14th March states that the Whitgift Preservation Committee, which has now good reason to hope for the success of its efforts to save the oft-threatened Hospital, is usefully turning its activity into other, though kindred, channels. It is, for instance, engaged in collecting and arranging in a chamber over the porch of the parish church the various architectural fragments of the mediæval structure which were discarded in the rebuilding after the fire of 1867.

Election of Licentiates.

At the Council Meeting of the 20th March last the following candidates were elected Licentiates R.I.B.A., in accordance with the provisions of By-law 12 :—

ABRAHAM : John William.
AGA : Burjor Sorabshaw Jamshedje (Bombay).
ALDER : John Samuel.
ALEXANDER : Samuel Grant (Inverness).
ALLEN : Frederick Albert.
ALLEN : Sydney (Chesterfield).
ANDREW : Frederic William (Manchester).
ANNAN : Robert.
ANONI : Arthur Frank (Liverpool).
APPLEYARD : Henry Milnthrope (Liverpool).
ASCROFT : Henzell (Bolton).
AYLWIN : Reginald Francis Guy (Sevenoaks).
BAILEY : Alfred George (Bournemouth).
BAILY : Harold.
BAINES : William Henry (Radlett).
BALL : Edward Charles (Manchester).
BALLANTINE : John (Glasgow).
BANKS : Thomas Moffatt (Westmorland).
BANKS : Clifford Saunders (Croydon).
BARCLAY : Arthur James (Ontario).
BARGMAN : Frederick (Dorking).
BARKER : Percy Douglas (Maidstone).
BARKER : Walter Clement (Halifax).
BARLOW : Walter (Bolton).
BARNETT : Richard Reginald (Wimbledon).
BARRETT : Herbert Stanley (Gerrard's Cross).
BATTIE : Charles Albert (Woking).
BECKWITH : Henry Langton (Liverpool).
BELL : William (Aberfeldy).
BELL : Thomas Frederick (Liverpool).
BENISON : Henry Spencer (Dorking).
BENTON : James Edwin (Sheffield).
BERRY : Philip Roland.
BEVERIDGE : David Alston (Liverpool).
BINNS : Joseph (Leeds).
BIRD : Ernest Earle.
BLAKEY : Richard Palin (Canada).
BLANC : Louis.
BLANGY : Louis Alfred.
BLEASDALE : Frank (Manchester).
BODEN : Hubert (Hull).
BOOTH : Percy (Manchester).
BOUGATSOS : Christos C. (Cairo).
BOWDEN : Ernest Edward (Banstead).
BOWLES : Charles William (Sevenoaks).
BRIGGS : John.
BROOKS : John Sidney (St. Albans).
BROWN : David Morton (Kilmarnock)
BROWN : John (Edinburgh).

BROWN : William (Motherwell).
BUNCH : Arthur Charles (Winchester).
BURKINSHAW : John Francis.
BURNET : W. Hodgson.
BURNS : James (Blackpool).
BURRELL : John George (Durham).
BUTLER : E. (Birmingham).
BYRON : George Frederick.
CANTRELL : William Reyner (Ashton-under-Lyne).
CARTER : William Morris (York).
CASH : George (Derby).
CATTERMOLE : Frederick William (Norbury).
CAUDWELL : Arthur Cyril.
CHENNELLS : Ernest William (Portsmouth).
CHENOY : Phirozshaw Ardeshir (Bombay).
CHIPPENDALE : Benjamin (Yorks).
CLARKSON : Edward Stanley.
CLAYTON : John (Blackburn).
CLELAND : John Stockwin (Pretoria).
COBURN : George Scott (NNewcastle-on-Tyne).
COCKERELL : Albert Edgar.
COCKRELL : Thomas (Bedford).
COE : Joseph Arthur (Manchester).
COGSWELL : Arthur Edward (Portsmouth).
COGSWELL : John Henry (Portsmouth).
COLE : Andrew George (South Woodford).
COLE : Frederick George.
COLLINGS : Harry (Coalville).
CONWAY : Edward John (Andover).
COOPER : Herbert Francis Thomas (Purley).
COOPER : Thomas Edwin George (Simla).
COPP : Walter Frederick (Castleford).
COWAN : Charles Edward (Ontario).
COWMAN : Alfred (York).
CRICKMER : Courtenay Melville (Letchworth).
CRONE : John George (Newcastle-on-Tyne).
CROUCH : J. (Birmingham).
CUMMINGS : Vivian John.
DALL : John (Edinburgh).
DAVIES : Arthur (Manchester).
DAVIES : E. B. (Birmingham).
DAVIS : W. J. (Birmingham).
DAWSON : Harold (Regina).
DAWSON : Walter Cecil (Beckenham).
DEACON : Basil Charlton (Luton).
DEAKIN : Frederick Montague (Beckenham).
DINGLE : John Martin (South Shields).
DIXON : Herbert Selwyn (North Shields).
DIXON : Montague Evans Darley (Chislehurst).
DIXON : Robert (Barnsley).
DOLMAN : Edward Joseph (Gloucester).
DONALD : Peter Rosby (Newcastle-on-Tyne).
DOWTON : William Leonard (Broadstairs).
DREWITT : Frederick George (Birkenhead).
DROWER : John Buckland (Woking).
DRYDEN : Frederick Marshall (Newcastle-on-Tyne).
DUKE : Albert Frederick.
DUKES : William Battley.
DUSSAULT : L. L. (Birmingham).
EARL : Henry Terry.
EAST : Harry Edward.
EATON : Sydney Edmund (Ashton-under-Lyne).
EDDISON : Henry (Grimsby).
EDWARDS : Charles Henry (Cape Town).
EKINS : Leonard Gray (Newcastle-on-Tyne).
ELLERSHAW : T. (Birmingham).
ELLIS : Edward Miller (Enfield).
ELWES : Robert Gervase (Victoria, B.C.).
EWAN : Charles (Glasgow).
EWAN : Robert, Jun. (Glasgow).
FAGG : Arthur Hadley.
FAGG : William George (Cape Town).
FARROW : John Wilford Hilbert (Cape Colony).
FAWCKNER : A. Percy (Newport).
FEATHERSTONE : Henry Whitehead (Newcastle-on-Tyne).
FEILD : Bertram Kennard (Reigate).
FERGUSON : John (York).
FERRIER : Claude Waterlow.
FISHER : Thomas Exley (Burley-in-Wharfedale).
FOLLETT : Joshua James (Sutton).
FORD : Harry Wharton.
FORD : Thomas William (Sunderland).
FORGE : Frederick Lindus (South Woodford)
FRANKISS : Charles.
FRENCH : Sidney (Cambridge).
FYFE : Arthur (Purley).
GALLOWAY : William Gordon (Glasgow).
GILBERTSON : William Percy (Preston).
GILMAN : Ernest Frederick (Pontypridd).
GLOVER : W. H. (New Zealand).
GOLDSTRAW : Walter (Liverpool).
GOODALL : Harry H. (Nottingham).
GORDON : Harry.
GORDON : Robert Clifford Turner.
GRIFFITH : Gronwy Robert (Rhyl).
GROVE : Howard Thomas (Sydney, N.S.W.).
HAARER : Frank Edwin.
HALL : Alfred George.
HAMPSON : Neville (Liverpool).
HANMAN : William Thomas.
HANSON : James Walter (South Shields).
HARBRON : George Dudley (Hull).
HARDY : Thomas Elson.
HARRISON : E. G. (Birmingham).
HART : Abraham (Wakefield).
HARVIE : Robert (Lanarkshire).
HASTIE : Edward (Hampton-on-Thames).
HAVARD : R. Dare (Newport).
HAWKES : Harry Campbell (Birmingham).
HEATHCOTE : Alexander Thomson (Manchester).
HELBRONNER : Pierre Michel (Montreal).
HENNING : Walter Charles (Wimbledon).
HIGHMOOR : Samuel George (York).
HILL : Patrick Joseph (Johannesburg).
HIRST : Arthur (Newcastle-on-Tyne).
HOBSON : Florence Fulton (Ireland).
HODDER : Eric Edwin (Croydon).
HODGES : Alfred C.
HOLBROOK : Alfred James (Nottingham).
HOLBROOK : Alfred Ernest (Hanwell).
HOLDGATE : Graham Hudson (Teddington).
HOLT : Frank Bransbury (Cape Town).
HOLTOM : E. G. (Stratford-on-Avon).
HUNT : Archie Ainsworth (Bury St. Edmunds).
INGLIS : John Elmsly.
ISITT : George Henry (Hull).
JAMES : Arthur (Leeds).
JANE : William (Weston-super-Mare).
JENKINS : Gilbert Henry.
JOHNSTONE : John Rutherford (Troon, N.B.).
JOHNSTONE : John Thomas (Bristol).
JONES : Hugh G. (Montreal).
KEECH : Edward William (Beckenham).
KENT : George Nathaniel (East Ham).
KERR : William (Glasgow).
KILLBY : Ashley Scarlett.
KIRBY : Frank Moore (Greenhithe).
KIRBY : Samuel Richard (York).
KIRK : Charles James.
LANCASTER : John Fielding (Burnley).
LANGBEIN : Oscar.
LAZENBY : Henry Goodrick (Herne Hill).
LEAD : Edwin Augustus (Wembley).
LEE : William Winder (Darlington).
LEVERTON : Walter John Hopkins (Balham).
LEY : Algernon Sydney Richard (Frinton-on-Sea).
LINDSAY : Alexander Ross (Edinburgh).

LINGARD : Alfred (Balham).
LITTLE : Owen Cary.
LITTLEWOOD : Frank (Manchester).
LOCKTON : Herbert William (Newark-on-Trent).
LONG : H. W. (Calverly).
LOVEDAY : William Taylor (Rugby).
LUCAS : Frederick James.
LUDLOW : Thomas William (Montreal).
LUKE : Herbert Arthur (Swanley Village).
MABSON : Walter West.
McCARTHY : Thomas Ignatius (Coalville).
McCLELLAND : William (Ayr).
McCULLOCH : Henry Cox (Manchester).
McGARVA : Gilbert (Shanghai).
McGRATH : James P. (Londonderry).
MAGGS : Leonard (Nottingham).
MAJOR : Ernest Harry.
MAPLESDEN : Charles William (Coulsdon).
MARCHMENT : Wallace.
MARSLAND : Money.
MARTIN : F. W. (Birmingham).
MARTINDALE : Alfred Thomas (Plymouth).
MASEY : Frederick William (Bloemfontein).
MATHER : Oliver Collin (Manchester).
MAYLETT : William Allen (Worcester).
MERCER : Francis Howard.
MESSER : Arthur Albert (Woking).
MESSERVY : Charles (Jersey).
METSON : George.
METTHAM : John Arthur (Grantham).
MICHELL : John Deeble (Chiswick).
MILL : Richard Arthur (Plymouth).
MILLS : William (San Francisco).
MONKMAN : Thomas (York).
MONSON : Harry (Castle Hielt).
MORLEY : John (Cambridge).
MOSLEY : Wilfrid Rowland (Slough).
MURRAY : Kenneth Lisle (Stafford).
NEWELL : Leopold Monk (Liverpool).
OAKLEY : Harold
OATLEY : Joseph George.
OLIVER : William John (Wolverhampton).
OVERMANN : Frederick Harney (Manchester).
PAGE : James (South Shields).
PAINTER : Alfred Eaton (Wolverhampton).
PARKIN : Robert Arthur (York).
PARKINSON : Edgar Harrison (Bradford).
PARSONS : O. P. (Birmingham).
PAULIN : Arthur Cocks (Bexley).
PAYNE : Ernest Henry.
PEACOCK : David (Manchester).
PEDDLE : James (Sydney, N.S.W.).
PEMBERTON : Guy (Birmingham).
PENTY : Arthur Joseph.
PETT : Albert Edward.
PHILIPS : Arthur Maxwell.
PHILLIPSON : Joseph Wilfrid Featherstone (Newcastle-on-Tyne).
PIPE : Frederick Daniel (Ilford).
PIPER : Stephen (Darlington).
POLLARD : Ernest Arthur (York).
POOLE : Albert Francis (Bournemouth).
POOLE : Vivian Sydney Rees (Pretoria).
POOLEY : George (Woking).
POULTER : Briant Alfred (Camberley).
POWELL : Robert Sidney.
PRICHARD : Walter John (Abergavenny).
PUNTIN : James Henry (Regina).
QUEREE : Hedley Cecil (Jersey).
QUILTER : Cecil Molyneux.
QUINTON : Herbert (Oxford).
REAVELEY : Albert (South Shields).
REEVE : Albert Alexander.
REID : John Ernest (York).
RICH : Roland (Newcastle-upon-Tyne).
RIDSDALE : Alfred Cyril (Northern Nigeria).
RIMMER : Edward (Liverpool).
ROBERTS : George Arthur (Sydney, N.S.W.).
ROBERTSON : Robert.
ROBINSON : Frank James (Bath).
RODGER : J. W. (Cardiff).
ROSS : William Harvey.
ROWLANDS : John Edward (Liverpool).
SADLER : Charles Ernest (Hampton-on-Thames).
SANDBACH : Joseph Charles Howard (Blackburn).
SANDERS : Ingalton (Southampton).
SANDY : Henry T. (Stafford).
SARVIS : John (Woking).
SAUNDERS : John (Newark-on-Trent).
SAVAGE : R. (Birmingham).
SCAPING : Herbert Charles (Grimsby).
SCHOLEFIELD : Russell Scott (Crewe).
SEDGER : George.
SHERVEY : Albert Edward (Bournemouth).
SHIRLEY : Walter Knight.
SIDEY : John (Exeter).
SIMPSON : Cecil John William (Shanghai).
SIMPSON : William Begg.
SINCLAIR : Thomas (Manitoba).
SKIPWITH : Frank Peyton.
SMITH : George Edwin (Southsea).
SMITH : George Thow.
SMITH : James Buchanan Pentland (Pretoria).
SOUTAR : Archibald Stuart.
SOUTAR : John Carrick Stuart.
SPARKE : Albert (Wahroonga, New South Wales).
SPRINGALL : William Thomas (Manchester).
SPURGIN : Karl Branwhite (Newcastle-on-Tyne).
SPURR : Willie Roland (Wakefield).
STABLES : Jonathan (Ambleside).
STAINER : Walter.
STARK : James Rogers.
STEEL : William (Sunderland).
STEVENS : Edgar (Newcastle-on-Tyne).
STEVENSON : Ernest Gabriel (Farningham).
STEVENSON : James (Berwick-on-Tweed).
STEWART : Hugh.
STEWART : Harry Sinclair (Limpsfield).
STIENLET : Pascal Joseph (North Shields).
STONE : Charles Sidney.
SULLY : Henry (Nottingham).
SUTHERLAND : George Angus (Wick).
SWAN : J. A. (Birmingham).
SWANWICK : Harry (Coalville).
SYKES : Joseph (Casino, N.S. Wales).
SYME : John Stuart (York).
TANSLEY : John Beaumont (Purley).
TATE : Edwin Ridsdale (York).
TATHAM : Trevor John (Bromley).
TAYLOR : Reginald Minton (Harrow-on-the-Hill).
TAYLOR : Tom Hugh (Middlesbrough).
TAYLOR : William Harry (Nottingham).
TERRY : Edward Hardwick (Berkhamsted).
THOMAS : Ernest James (Gosport).
TOWNEND : Thomas (Rochdale).
TRAVIS : Arthur (Manchester).
VAUGHAN : Hugh (Stafford).
WADDINGTON : Frederick Turner (Blackpool).
WALDRAM : Percy John.
WALKER : Charles (Newcastle-on-Tyne).
WALL : W. Baptist (Sydney, N.S.W.).
WARBURTON : Joseph (Beeston).
WARDLE : Richard Samuel.
WATSON : Alfred Edward (High Barnet).
WATSON : William Pilkington (Winnipeg).
WEBBER : Francis Sidney.
WEIR : William (Winchmore Hill, N.).
WENYON : George Harry (Dudley).

WEST : Charles.
WHITE : John (Birmingham).
WHYTE : James Balderston (Glasgow).
WIGLEY : E. H. (Birmingham).
WILKINSON : Stephen (Newcastle-upon-Tyne).
WILLIAMS : Sidney (Cardiff).
WILLIS : James Herbert (Constantinople).
WILSON : Anthony (Derby).
WILSON : Edmund Richardson (Invercargill, N. Zealand).
WILSON : George Thomas (Black Hill, Co. Durham).
WILSON : John Hardy (Nottingham).
WINMILL : Charles Canning (Sidcup).
WOODWARD : George Gilbert (Upminster).
WOOTTON : Frank Ernest (Scarborough).
WRIDE : James Barrington (Cardiff).
YATES : Tom (Leigh).
YOUNG : Arthur (Bradford).
YOUNG : William (Bradford).

Architects' Benevolent Society.

The Annual General Meeting of this Society was held on the 11th April, 1911, Mr. Leonard Stokes, *President*, in the Chair. The Annual Report of the Council was adopted as follows :—

The Council, in submitting their sixty-first annual statement, have to report that the sum of £727 15*s.* has been distributed in eighty-six grants, while the further amount of £250 has been paid to the Society's pensioners, thus making the total sum expended in relief £977 15*s.*

Although thirteen new subscribers have been enrolled, the total amount received in subscriptions was below that of the previous year; the actual figures being £702 0*s.* 6*d.*, as against £709 9*s.* 6*d.* received in 1909, without including the sums received for subscriptions in arrear or for those paid in advance. Among the new subscribers, the Council have the pleasure to mention the Manchester Society of Architects for £5 5*s.*, while the Leicester and Leicestershire Society of Architects have increased their annual subscription to the same amount. The falling off in the total amount has been occasioned by the large number of subscriptions which remained unpaid at the end of the year, notwithstanding repeated applications. Many of these overdue amounts will no doubt yet be received; but the Council wish to point out that the consideration of deserving cases would be greatly facilitated if the general body of subscribers were to realise their responsibility with regard to prompter payment. Subscriptions are due on the 1st January.

The amount received in donations and bequests has fallen much below the average, being, for instance, £109 15*s.* as against £300 6*s.* 2*d.* received in 1910. As, however, a credit balance was carried over from the Capital Account (to which all donations and bequests are placed), an investment was made in the purchase of £200 Queensland 3 per cent. Inscribed Stock at a cost of £172 6*s.*, while at the end of the year the sum of £128 0*s.* 2*d.* remained in hand.

Donations have been received from Mr. Leonard Stokes, £21; Sir William Emerson, £15; The Merchant Taylors' Company, £10 10*s.*; Mr. Graham C. Awdry, £10; Sir A. Brumwell Thomas, £5 5*s.*; Mr. Walter Cave, £5 5*s.*; The Arts Lodge, No. 2751, £5 5*s.*; Mr. Victor A. Flower, £5 5*s.*; Sir Lawrence Alma-Tadema, £5; Mr. Archibald M. Dunn, £5, and many smaller amounts.

The Society during recent years has suffered from the death of many of its most generous supporters. The Council greatly regret to add that this number was increased last year by that of Mr. John T. Christopher. Mr. Christopher was not only a generous contributor to the Society, he also took, as a member of the Council on many occasions, an active interest in its administrative and philanthropic work, to the consideration of which he was always willing to devote his energy and time. The Council highly appreciate an intimation which they have received from the members of his family, through Mr. Freville Christopher, that they wish to contribute a hundred guineas to the Society as a tribute to his memory.

The following, being the five senior members, retire by rotation from the Council :—Mr. Benjamin Ingelow, Mr. Henry Lovegrove, Mr. Rowland Plumbe, Mr. William Woodward, and Mr. Arthur Ashbridge. To fill the vacancies caused by these retirements the Council have the pleasure to nominate : Mr. T. E. Collcutt, Mr. George Hubbard, F.S.A., Mr. E. B. I'Anson, Mr. A. Saxon Snell, and Mr. W. L. Spiers.

The thanks of the Society are due to the Royal Institute of British Architects for office accommodation and to the staff of the Institute for their always helpful courtesy in any matter connected with the Society.

MINUTES. XII.

General Meeting (Business).

At the Twelfth General Meeting (Business) of the Session 1910-11, held Monday, 10th April 1911, at 8 p.m.—The President, Mr. Leonard Stokes, in the Chair; of those present the names of 45 Fellows (including 17 members of the Council), 65 Associates (including 2 members of the Council), 1 Hon. Associate, and 17 Licentiates entered in the attendance-book—the Minutes of the Special General Meeting held 20th March and of the Business General Meeting held 27th March, already printed in the Journal, were taken as read and signed as correct.

The following Members and Licentiates attending for the first time since their election were formally admitted by the President, viz., Augustus E. Hughes, John W. Little, *Fellows*; Albert H. Ross, James B. F. Cowper, Ernest B. Glanfield, Edwin S. Hall, Francis H. Heppel, Claude V. Hodges, Percy K. Kipps, Kenneth W. Matheson, William S. Purchon, Cecil A. L. Sutton, Charles W. W. Thompson, *Associates*; Wilfred Bond, Ernest W. Collins, Bernard J. F. Cox, Henry H. G. Denvil, Daniel M. Franklin, Fred. Kempster, Frederick H. Mansford, Thomas W. Sharpe, William M. Weir, Thomas J. Young, *Licentiates*.

Mr. K. Gammell [*A.*] having called attention to the fact that the notice of the Meeting for that evening had only reached him at 10.15 a.m. on the 4th April, whereas, especially in view of the importance of the

matters to be considered, the full seven days' notice laid down in the By-law should have been given, the President expressed regret at the shortness of the notice, but explained that the By-law had been complied with, all the notices having been despatched to members seven clear days previous to the Meeting.

Mr. H. Hardwicke Langston [*A.*] pointed out that under the Supplementary Charter Licentiates were not entitled to be present or take part at any General Meeting in the transaction or discussion of business relating to the By-laws, etc., and having suggested that Licentiates present should withdraw, the sense of the Meeting was taken on the point and declared strongly in favour of their remaining, the President remarking that it was understood that they would neither discuss nor vote upon the questions to be brought before the Meeting.

Mr. K. Gammell [*A.*] formally protested against the presence of Licentiates.

The President, in accordance with notice, moved that the Meeting confirm the Resolution passed at the Special General Meeting of the 20th March authorising the Council to continue to elect Licentiates until the end of June 1912.

A proposition by Mr. W. H. Burt [*A.*], seconded by Mr. Herbert Shepherd [*A.*], that the Meeting proceed to the next business was put from the Chair, and negatived; and further discussion was ruled out of order, the President pointing out that it was open to Members who objected to the Resolution to vote against it.

The Resolution being put from the Chair, it was

RESOLVED, by a large majority, that this Meeting hereby confirms the Resolution passed at the Special General Meeting of the 20th March 1911 —viz. "That under Clause 1 of the Supplemental Charter of 1908 the Council be authorised to continue to elect Licentiates of the Institute until the end of June 1912."

The following candidate was elected by show of hands, viz.,

AS FELLOW.

WOOD : EDGAR [*Associate* 1885], Manchester.

The Secretary announced that Professor Charles H. Moore, late Director of the Fogg Art Museum, Harvard University, had been nominated for election as Hon. Associate.

The Business Meeting then terminated.

SPECIAL GENERAL MEETING.

At a Special General Meeting summoned by the Council under By-law 65, and held Monday, 10th April, at the conclusion of the Business Meeting above recorded, and similarly constituted, a statement was laid before the Meeting by the Council with reference to the proposed Bill for the Registration of Architects and to the future of the Society of Architects. This statement was sent out to all members as a private and confidential document [see *Supplement*, JOURNAL, 1st April]. The general Principles of the Bill, as stated in this notice, were as follows :—

General Principles of a Bill for the Registration of Architects.

After a suitable Preamble—

". . . and whereas architecture is of public importance, and it is in the public interest that architects entrusted with the design and supervision of buildings should be qualified persons of ability and repute, recognised by a competent representative architectural authority :

"May it therefore please your Majesty that it may be enacted, and be it enacted by the King's most excellent Majesty, by and under the advice and consent of the Lords Spiritual and Temporal and Commons in this present Parliament assembled and by the authority of the same, as follows, that is to say :—

"1. The Architectural Registration Authority shall be and mean the Council of the R.I.B.A. with the addition of nominees of the Privy Council.

"2. The term Architect shall mean every person who is now or in the future shall be enrolled on the Register as a Fellow Associate or Licentiate of the Royal Institute of British Architects or an Architect Member of the Royal Academies of Arts of England, Ireland, or Scotland.

"3. Every Architect in the United Kingdom, Colonies or Dominions shall be entitled to be entered on the Register as soon as he is elected to one of the classes of Fellows Associates or Licentiates in manner provided by the Royal Charters, or as a Member of the Royal Academies of Arts of England, Ireland, or Scotland.

"4. After 1912, except as provided in Clause 7 hereof, no person shall be permitted to practise for hire or reward in designing a building, and certifying payments in respect of the erection thereof, unless he is an Architect within the definition of this Act.

"5. An Architect, unless he be a salaried official, shall be entitled to be remunerated for his services according to a scale of fees and charges to be approved from time to time by His Majesty's Secretary of State for the Home Department.

"6. From and after a date which shall be five years after the passing of the Act, every County or Borough Council and Corporation of a City or Borough, Rural or Urban Council, Board of Guardians, Highway Board, School Board, Bench of Magistrates, and any other public Board, Committee or Trust elected, delegated or appointed by the public, and acting in an administrative, executive, or fiduciary position, who shall hereafter erect or shall alter the exterior of any building facing any road or open space at a cost exceeding £1,000 out of funds supplied or provided by public grants, rates or other assessments, shall employ and appoint an Architect as herein defined to design, under the instructions of the employers, and to supervise the erection or alteration of the said building, and to certify any payments to be made in respect thereof. Provided that the employer shall have power for sufficient cause to dismiss the Architect and from time to time appoint another Architect in his place.

"7. In the case of bridges, railway or tramway stations, or similar buildings within the civil administrative limits of any city, borough, or village, which are primarily of an engineering character, they shall employ and appoint an Architect to collaborate with the engineer in the design and supervision of the façade or exterior of the said buildings.

"Provided always that this section shall not apply to the erection outside the aforesaid limits of any building by any Railway, Dock, Gas, Water, Electric, or other Company of any factory, shed, workshop or other similar building for the carrying out of which it is usual to employ an Engineer appointed by the said Company.

"8. Nothing contained in this Act shall apply to the prejudice of any person who previous to the passing of this Act shall have been engaged in practice in designing or superintending buildings. Nor shall it affect the function and practice of any Engineer as such except as in Clause 6."

The details of the scheme arranged by the Council in consultation with the Council of the Society of Architects by which the latter body would be wound up and its members admitted into the Institute, appear

in the confidential statement sent to members, but in view of the fact that these details are still under the consideration of the Society of Architects, they are not made public in these Minutes.

The President, having referred to the purpose of the Meeting as set out in the notice paper, read a statement describing the steps taken by the Institute in pursuance of the policy agreed upon at the Meeting of the 4th March, 1907, the ultimate object of which was the promotion of a Bill in Parliament providing for the statutory recognition of qualified as distinguished from unqualified architects.

Having briefly reviewed the general principles of the Registration Bill proposed by the Council, and having referred to the scheme for enrolling the members of the Society of Architects, the President formally moved the adoption of the proposals as printed on the notice-paper [see *Supplement*, JOURNAL, 1st April].

A motion by Mr. Bernard Dicksee [*F.*], seconded by Mr. J. Nixon Horsfield [*A.*], that the whole matter be referred back for further consideration was negatived.

Motions by Mr. W. R. Davidge [*A.*], seconded by Mr. Bernard Dicksee [*F.*], that clauses 2 and 3 be referred back were similarly negatived.

The various clauses as printed on the notice-paper being put to the Meeting separately were discussed and carried by large majorities.

The President having stated that note had been taken of the various suggestions made during the discussion and that they should receive the careful consideration of the Council, the clauses setting out the general principles of the Bill were put *en bloc* and carried.

A resolution for the adjournment of the debate, moved by Mr. K. Gammell [*A.*] and seconded by Mr. W. H. Burt [*A.*], was negatived—30 voting for, 41 against.

The proposals relating to the Society of Architects as printed on the notice-paper were then put to the Meeting *en bloc* and carried—61 voting for, 39 against.

Finally, the original motion was put from the Chair, and it was

RESOLVED, that the Royal Institute of British Architects, in a Special General Meeting summoned in accordance with the provisions of the Charter and By-laws, hereby expresses its approval of the proposals laid before it by the Council in the statement with reference to the general principles of the Registration Bill and to the proposals relating to the Society of Architects.

It was further

RESOLVED, that the Royal Institute of British Architects, in a Special General Meeting summoned in accordance with the provisions of the Charter and By-laws, hereby resolves that the following amendments to the By-laws be adopted, and that the Council be authorised to obtain for them the approval of His Majesty's Privy Council :—

By-law 27, line 1 : The words "forty-four" to be substituted for the words "forty-two."

By-law 27, line 37 : The following words to be added—"(*f*) Two Fellows or Associates of the Royal Institute as representatives of the former Society of Architects."

By-law 32, line 3 : After the words "Associate Member of Council" the following words to be added : "The representation of the former Society of Architects on the Council of the Royal Institute shall cease on and after the date of the passing into law of a Bill for the Registration of Architects promoted by the Royal Institute."

The proceedings then closed and the Meeting separated at 10.30 p.m.

ALLIED SOCIETIES.

The Liverpool Architectural Society (Incorporated). The 63rd Annual General Meeting of this Society was held on Monday the 3rd April. Mr. Arnold Thornely [*F.*] was in the chair and gave a short address on general matters affecting the Society. The report states :—The present Membership of the Society consists of 53 Fellows and 73 Associates, a total of 126. The R.I.B.A. having sought the assistance of the Society in drawing the attention of the local profession to the new scheme for the admission of architects as Licentiates of the Institute, a meeting was held on the 12th December last at the Society's Rooms, Harrington Street, to which all known architects in the district were invited. Mr. George Hubbard [*F.*] and Mr. A. W. S. Cross [*V.P.*] attended on behalf of the Institute and explained the objects that the Institute had in view. A similar meeting, held at Rhyl on 13th December, was attended by the President and Hon. Secretary.—The proposal to cut away the wall at the south end of St. George's Hall in order to prepare a site for the erection of a memorial of the late King Edward has met with the opposition of the Council, who have petitioned the Memorial Committee and also the Finance Committee of the City Council with respect thereto, pointing out that in their opinion no statue can be erected in that position without injury to the composition of the Hall and danger to the beauty and dignity of the memorial, and suggesting that a less dangerous and more suitable site be found elsewhere.—The R.I.B.A. has approved and published a new form of Regulations of Architectural Competitions. The new Regulations embody several of the suggestions put forward by this and the Manchester Society, but the Council thought it right to protest against the members of the Allied Societies being regarded as bound by the stringent terms of the Regulations unless and until the Regulations had been submitted to and approved by them. The Institute, in reply, regretted the misunderstanding, but submitted that, as the wording of the Regulations was considered sufficiently elastic to meet reasonable modification, it was hoped the Society would support the Regulations as published. The Council decided not to press their objections further.—A National Conference on Details of Practical Town Planning Administration, under the auspices of the National Advisory Town Planning Committee, was held in Liverpool on 23rd and 24th February last. The Council appointed Mr. Arnold Thornely and Mr. E. Percy Hinde to attend the Conference as representatives of the Society.

The following are the office-bearers for the ensuing Session :—*President*, Arnold Thornely [*F.*] ; *Vice-Presidents*, E. P. Hinde [*A.*], C. H. Reilly, M.A. [*A.*] ; *Hon. Secretaries*, Gilbert Fraser [*A.*], Ernest C. Aldridge ; Unofficial Members of Council : *Fellows*, W. Glen Dobie [*A.*], J. Dod, T. E. Eccles [*F.*], G. H. Grayson, M.A. [*A.*], L. Hobson [*A.*], P. C. Thicknesse [*F.*], W. E. Willink, M.A. [*F.*] ; *Associates*, L. P. Abercrombie, F. E. G. Badger ; *Hon. Auditors*, John Woolfall [*F.*], M. Honan [*A.*].

Erratum.—Minutes, Business Meeting, 27th March, p. 390 : *For* Chaundler : James Herbert *read* CARTER : GEORGE RALPH [*S.* 1908], Leicester.

REPORT OF THE COUNCIL FOR THE OFFICIAL YEAR 1910–1911.

Approved and adopted at the Annual General Meeting, Monday, 1st May 1911.

SINCE the publication of the last Annual Report the Council have held 25 meetings, of which the Council elected in June last have held 22. The following Committees appointed by the Council have met and reported on the matters referred to them:—Architectural Copyright Bill, Board of Architectural Education, Board of Examiners, Board of Professional Defence, Burlington-Devonshire Drawings, By-Laws Revision, Competitions, Dinner Committee, Fellowship Drawings, Finance, Hébrard Drawings, Licentiates' Drawings, Licentiateship, Parliamentary Bill, Premises, Professional Questions, Prizes and Studentships, Royal Gold Medal, St. Paul's Bridge Petition, Sessional Papers, Town Planning.

Death of King Edward. In the course of the past year the Royal Institute has had to mourn the death of its Royal Patron, who in the course of the nine years of his reign had annually granted his Gold Medal for the promotion of architecture.

His present Majesty has graciously consented to continue the grant, and has conferred the honour of his patronage upon the Royal Institute.

Obituary. The losses by death have been as follows:—*Fellows*: George Aitchison, Thomas Jerram Bailey, Eustace James Anthony Balfour, Oliver Caldwell, Sir Caspar Purdon Clarke, Alexander Cullen, Campbell Douglas, Henry Launcelot Fedden, Alexander Cunningham Forrester, Charles Hodgson Fowler, William Banks Gwyther, Andrew Murray, Frederick William Peel, George Ransome, Edward Skinner, Henry Spalding, Alfred Hessell Tiltman, Edward Finnemore Titley, Ralph Selden Wornum; *Retired Fellows*: Edward Boardman, James George Smither; *Associates*: Charles Ashton Callon, Arthur Basil Cottam, Matthew Henry Holding, William Seth Robert Payne, Frederick William Roper, Edward Henry Smales, Albert Edward Tiller; *Licentiates*: Joseph Shepherdson, Albert Emanuel Pearson.

Royal Gold Medal. The Royal Gold Medal was awarded last year to Mr. T. G. Jackson, R.A., for his executed works as an architect and for his valuable contributions to the literature of architecture. Mr. Jackson received the Medal in person at the General Meeting on the 20th June 1910, when he delivered a short address on the Art of Architecture.

It has been decided to award the Medal this year to Dr. William Dörpfeld, in recognition of his eminent services to architecture through his archæological researches. His Majesty the King has graciously signified his approval of the award, and the Medal will be presented to Dr. Dörpfeld at the General Meeting on June 26.

Membership. The following tabular statement shows the present subscribing membership of the Institute compared with that at the corresponding periods of 1908, 1909, and 1910:

Year	Fellows	Associates	Hon. Associates	Total
1908	906	1,288	45	2,239
1909	888	1,344	46	2,278
1910	874	1,431	48	2,353
1911	862	1,509	55	2,426

The number of Associates shows a considerable increase, and the Council desire again to suggest to those Associates who are qualified for the Fellowship that they should take the necessary steps to enter the Senior Class. During the official year since the last Annual General Meeting 18 Fellows have been elected, 115 Associates, and 9 Honorary Associates.

Licentiates. On March 23, 1910, it became the duty of the Council to invite applications from architects qualified for the new class of Licentiates. A widely circulated appeal was made to the profession in the United Kingdom and the Dominions, and the Allied Societies were invited to co-operate in the work of enrolling the practising architects of the Empire. In connection with the movement the Council organised a series of meetings in the provinces, with the assistance of the Councils of the Allied Societies, for the purpose of laying before provincial architects the important principles of the Royal Institute's policy, and of giving them an opportunity of applying for admission to the Licentiate Class. These meetings were well attended, and aroused great interest, and did invaluable service in bringing the members of the profession in the provinces into closer sympathy with the work of the Royal Institute. Mr. Edwin T. Hall addressed a meeting at Manchester; Messrs. George Hubbard and A. W. S. Cross addressed meetings at Cardiff, Birmingham, Leicester, Sheffield, Liverpool, Rhyl, Nottingham, and Swansea (by deputy); and Mr. James S. Gibson addressed meetings at Newcastle, Edinburgh, Glasgow, Dundee, and Aberdeen.

Before the expiry of the 12 months fixed by the Supplemental Charter some 1,200 Licentiates were elected, after careful and exhaustive inquiry into their qualifications, both by the Council of the Royal Institute and by the Councils of the Allied Societies. At the close of the 12 months the applications were still coming in so rapidly that it became obviously desirable to extend the period of admission. Accordingly, by a Resolution of a Special General Meeting, so as to enrol if possible all eligible members of the profession, the date was extended to the end of June 1912, and at the present moment the applications for admission are still coming in freely.

Registration Bill. Under the terms of the policy agreed upon by the Royal Institute on March 4, 1907, it became necessary during the present Session for the Council to draft a Registration Bill to secure the statutory recognition of the profession. This work was first entrusted to a strong Committee, which drafted the principles of a Bill on broad lines to provide for the objects aimed at—the enrolment of all qualified architects within the Institute, the compulsory architectural education and examination of those entering the profession in future, and the legal recognition of qualified as opposed to unqualified architects.

At this stage it became necessary to consider the position of the Society of Architects. On the initiative of the President a friendly Conference was held between representatives of the two bodies, and it soon became apparent that there was a broad ground of agreement in their respective policies. Serious negotiations were then entered upon, and a scheme was prepared by the Councils of the two bodies which provided for the winding up of the Society of Architects and for the election of its members into the various classes of membership and Licentiateship of the Royal Institute. The details of this scheme and the principles of the Registration Bill were laid before a Special General Meeting on April 10th, and after a long discussion were approved. If the scheme is approved by the general body of the Society of Architects and the Resolution to effect the necessary changes in the By-laws is confirmed by the Royal Institute it will at once be proceeded with and will remove the last obstacle which hinders the architectural profession from approaching Parliament as a united body in favour of the principle of Registration.

Town Planning Conference. The past year will be distinguished in the history of the Royal Institute by the striking success of the Town Planning Conference. Owing to the death of King Edward it was necessarily postponed from the date originally selected in July to the middle of October. It was favoured by the patronage of the King, and had the inestimable

advantage of the enthusiastic and energetic honorary presidency of Mr. John Burns, M.P., President of the Local Government Board. The Conference began with a most successful Inaugural Meeting in the Guildhall, which was lent for the purpose by the kindness of the Lord Mayor and Corporation of the City of London. The Conference itself took place in the Galleries of the Royal Institute, and it was accompanied by a Town Planning Exhibition of unique interest in the Galleries at Burlington House, which were lent by the courteous generosity of the Royal Academy. It is not too much to say that during the week occupied by the Conference it was the most important public function of the time in the eyes of the general public, and that it did incalculable service to the cause of town planning in this country. It aroused and concentrated public interest and attention upon the great possibilities presented by the Town Planning Act.

The TRANSACTIONS of the Conference, which fill a large and profusely illustrated volume, have now been published and should go far to secure the permanence of the results of the Conference.

The Conference Banquet, which took place at the Hôtel Cecil on October 12th, was combined with the Annual Dinner of the Royal Institute. A large and distinguished company was present, the Institute guests including, among others, the President of the Local Government Board, Lord Redesdale, Sir Schomberg McDonnell, Sir L. Alma-Tadema, Mr. D. H. Burnham, Sir Robert Morant, Sir Gilbert Parker, Mr. W. H. Lever, Sir George Gibb, Sir R. Paget, the Lord Provost of Edinburgh, Dr. Stübben, MM. Bonnier and Hénard, and other eminent foreign architects.

For the great success of the Conference, which exceeded all expectations, the Royal Institute is especially indebted to the invaluable services rendered by Mr. John W. Simpson, who acted as Secretary-General and Organiser of the Conference, and to Mr. Raymond Unwin, who, as Hon. Secretary of the Exhibition Committee, was mainly responsible for the organisation of the Exhibition in Burlington House. As a recognition of his services in this matter Mr. Unwin was elected a Fellow of the Institute by the Council.

Architectural Copyright.

During the course of the past Session a Standing Committee under the Chairmanship of Mr. John W. Simpson has been actively engaged in considering the terms of the Government's Copyright Bill, in so far as they affect architecture. The views of the Council have been laid before the President of the Board of Trade, and there is good reason to hope that they will be favourably considered when the Bill receives its final shape, and that the claims of architecture will, for the first time, be treated with the respect that has hitherto been reserved exclusively for the kindred arts.

St. Paul's Bridge.

In the last Annual Report the Council referred to the efforts which they had made to induce the Corporation of the City of London to see the advisability of bringing architectural advice to bear upon their proposals for the new St. Paul's Bridge and for the new streets in connection with it. These efforts unfortunately failed, and the Corporation have laid before Parliament a Bill in which they seek powers to carry out their scheme on the lines that have been so widely condemned. The Council have felt it their duty to petition Parliament against the Bill, and to appeal to the public to prevent this proposal from going further until it has been properly considered from other standpoints besides the purely utilitarian.

Dry Rot.

The question of the responsibilities that have been thrown upon architects as the result of recent legal decisions in cases of Dry Rot has been seriously occupying the Council during the past year, and the Board of Professional Defence are now considering what steps can be taken to safeguard architects against hitherto unsuspected responsibilities.

Examinations.

The Progressive Examinations were held in June and November 1910. The Preliminary was held in London, Birmingham, Bristol, Cardiff, Glasgow, Leeds, Manchester, and Newcastle-on-Tyne; the Intermediate in London, Bristol, Cardiff,

Glasgow, Leeds, Manchester, and Newcastle-on-Tyne; and for Colonial candidates at Sydney, New South Wales. The Council desire to record their thanks for the valuable services rendered by the Hon. Secretaries and Examination Committees of the various Allied Societies. The Final and Special Examinations were held in London, and Special Examinations for Colonial candidates in Melbourne and Toronto. The results are shown in the following tabulated form:—

	Admitted	Exempted	Examined	Passed	Relegated
Preliminary Examination . .	299	76	223	146	77
Intermediate Examination . .	250	10	240	94	146
Final and Special Examinations .	245	—	245	108	137

The Ashpitel Prize was awarded to James Bertie Francis Cowper, who passed the Final Examination in June 1910.

The Council desire to thank the Honorary Examiners for the continuance of their invaluable services.

The Statutory Examinations qualifying for candidature as District Surveyor in London, and for Candidature as Building Surveyor under Local Authorities, were held in London in October.

Prizes and Studentships. The Deed of Award of the various Prizes and Studentships was presented to the Institute at a General Meeting on the 16th January 1911. At the Presentation of Prizes on the 30th January 1911 an Address to Students was delivered by the President, and a criticism of the work submitted was read by Professor C. H. Reilly [*A.*]. An exhibition of the drawings was held from the 17th to the 30th of January in the Institute Galleries, and was visited by nearly 2,000 persons. A selection of the Prize Drawings is now being sent the round of the Allied Societies.

The Institute Premises. On the 24th June, as was foreshadowed in the last Annual Report, the Royal Institute took possession of the new premises at 9 and 11 Conduit Street with entrance from Maddox Street, the leases of which had been purchased from Messrs. Knight, Frank & Rutley. A scheme of alteration and decoration, prepared by Mr. Henry T. Hare, the Hon. Secretary, was at once undertaken, and the work was rapidly carried out during the vacation, so as to render the Galleries available for the Town Planning Conference. While this work was going on it became apparent that the old premises also were urgently in need of repair in various directions, and before the end of the recess the drainage system and the electric light installation were completely renewed, and a re-arrangement and extension of the Library was carried out which have added greatly to its convenient and efficient working.

The Royal Institute held its first meeting in the Galleries on the 7th November, the inaugural meeting of the Session, when the President's Opening Address was delivered, and on the following night the members, together with a large number of distinguished guests, were entertained at a Conversazione. During the month of November an Exhibition of the Architectural Drawings of Royal Gold Medallists, from C. R. Cockerell down to Mr. T. G. Jackson, was held in the Galleries, and was visited by large numbers.

New Allied Societies. Since the publication of the last Annual Report the Council have had the pleasure of admitting into alliance with the R.I.B.A.: The Royal Victorian Institute of Architects, and the West Australian Institute of Architects.

Sessional Papers. During the Session the following Papers have been read before the Institute:—

5th Dec. 1910: "Pierre Lescot and Jean Goujon," by Reginald Blomfield, A.R.A.

28th Nov.: "The Monumental Work of the Cosmati at Westminster Abbey," by Chevalier Professor C. Formilli. Reproductions of the Cosmati Monuments, prepared under the direction of Professor Formilli for the new Museum at Rome, were exhibited for the occasion at the Institute Galleries.

2nd Jan. 1911 : "The New General Post Office," by Sir Henry Tanner, I.S.O. [*F.*].

16th Jan. : "Cardinal Medicis' Pleasure House," by Halsey Ricardo [*F.*].

13th Feb. : "The Artistic Development of London," by Paul Waterhouse [*F.*] and E. A. Rickards [*F.*].

13th March : "The Burlington-Devonshire Collection of Drawings," by J. Alfred Gotch, F.S.A. [*F.*].

The following Papers have been arranged for the remaining meetings of the Session :—

22nd May : "Painted Relief," by R. Anning Bell.

12th June : "Egyptian Architecture," by Ernest Richmond.

26th June : "The Interleaved Heirloom Copy of the *Parentalia* and some Notes on the Wrens," by Lawrence Weaver, F.S.A. [*Hon. A.*]. The Council have the pleasure to announce that an Exhibition of Photographs of Wren's Work is being arranged for this meeting by the author of the Paper. The Exhibition will remain open till the evening of June 27th.

Professional Conduct. During the course of the year the Council have been compelled to take action in several cases of professional advertisement and breach of professional etiquette.

Board of Professional Defence. Many architects have applied for and received advice on questions of principle and practice.

Appointments. Since the issue of the last Annual Report the Council have appointed the following gentlemen to serve as the Institute Representatives in connection with the various bodies indicated :—

Carpenters' Company Annual Examinations.	Mr. A. W. S. Cross.
Conference of Representatives of London University, King's College, and the Architectural Association . . .	Mr. Reginald Blomfield, A.R.A. Mr. Ernest Newton, A.R.A.
General Council for the National Registration of Plumbers	Mr. H. D. Searles-Wood.
Joint Committee on Water Regulations .	Mr. Max Clarke.
National Housing and Town Planning Council—Advisory Committee . .	Mr. Edwin T. Hall. Mr. H. V. Lanchester. Professor Beresford Pite.
National Housing and Town Planning Conference, Liverpool	Mr. T. E. Eccles. Mr. Arnold Thornely. Mr. Percy S. Worthington.
Royal Sanitary Institute, 26th Congress .	Mr. Edwin T. Hall.
Society for Promotion of Roman Studies, Inaugural Meeting	Mr. George Hubbard, F.S.A. Mr. John W. Simpson.

Grants. Since the issue of the last Annual Report the Council have made the following grants :—

Architects' Benevolent Society, £100.
Architectural Association, £100.
Architectural Association Sketch Book, £25.
British School of Archæology, Egypt, £10.
British School at Rome, £21.
Croydon Antiquities Preservation Society, £5 5*s*.
Incorporated Joint Committee on Water Regulations, £10 10*s*.
Royal Architectural Museum, £21.
Sheffield Society of Architects, in support of the University of Sheffield Department of Architecture, £12 10*s*.

Competitions. The new draft Regulations for Architectural Competitions, as revised by the Special Committee appointed by the Council to consider the suggestions made during the discussions at the meetings of the 3rd January and 28th February last year, were

submitted to the General Body at the meeting of the 21st November and agreed to after slight modification. The document as revised [printed in the JOURNAL for 24th December 1910] has now been issued as an Institute Paper and the old Regulations have been withdrawn. The Competitions Committee have had under their consideration the conditions issued by various promoters, and in cases where the conditions have been unsatisfactory, letters urging modifications have been sent to the promoters. In the case of the Competitions for the New Cumnock United Free Church, the Rochdale Nurses' Home, and the Wallsend New School Buildings, the Committee's efforts to obtain satisfactory amendment of the Conditions having been unavailing, the Council by publication in the JOURNAL and in the professional Press have advised members of the Institute not to take part in them. The following have been the President's appointments to Assessorships during the official year :—

Bangor	Baths	Mr. F. Batchelor.
Bradford	Infirmary	Mr. Keith D. Young.
Brighton	Grammar School	Mr. John Bilson.
Chedderton (Oldham)	New Town Hall	Mr. H. W. Wills.
Denbigh	Public Buildings	MM. Leeming and Leeming.
Douglas (I. of Man)	Villa Marina	Professor S. D. Adshead.
East Anglia	Institute for Blind and Deaf Children	Mr. H. P. Burke Downing.
Henley-on-Thames	School	Mr. T. Edwin Cooper.
Manchester	Library and Art Gallery	Mr. Reginald Blomfield, A.R.A.
Marylebone	Town Hall	Mr. Henry T. Hare.
Salford	Secondary School	Mr. A. W. S. Cross.
Stockport	Proposed New School	Mr. John W. Simpson.
Stockport	Police Buildings	Professor C. H. Reilly.
Southampton	University College	Mr. Henry T. Hare.
Swansea	Corporation Buildings	Mr. S. S. Reay.
Taunton	Council School	Mr. H. W. Wills.
Weston Mill	Church	Mr. Walter J. Tapper.
Whitley (Newcastle-on-Tyne)	Cemetery Chapel	Mr. A. W. S. Cross.
Woldsea	Garden City	Mr. Raymond Unwin.

Copies of the "Regulations" have been sent to the promoters of the following competitions, together with letters requesting that a copy of the Conditions be sent for the Institute Library.

Aberdeen : Training College.
Aspatria : Sewerage Scheme.
Australia (Commonwealth): Australian Federal Capital in Casberra.
Bangor: Hot Sea-water Baths.
Belfast : Enlargement of Queen's University.
Bournemouth : Beale's Premises.
Brighton: Grammar School.
Bristol: Housing and Cottage Exhibition.
Cardiff : Fire Station.
Carlton (nr. Barnsley) : Sewerage Scheme.
Chadderton : Town Hall.
Corbridge : Sewerage Scheme.
Croydon : General Hospital.
Denbigh : Infirmary.
Devizes : Hospital.
Deptford : Central Library.
Douglas (I. of Man) : Villa Marina.
Earlsdon : Church.
East Anglia : Institute for Blind and Deaf Children.
Edinburgh : Usher Hall.
Evanston : Campus.
Folkestone: Secondary School.
Frimley Green :
Gidea Park : Town Plan.
Kingstown (Ireland): Carnegie Library.
Llandrindod Wells : Pavilion.
Lowestoft : Elementary Schools.
Maesteg : Town and Market Hall.
Manchester : Blackley Estate.
Manchester : Library and Art Gallery.
Marylebone : Town Hall.
Navan : Proposed County Offices.
New Cumnock : Church.
Penge : Church.
Penistone : Carnegie Free Library.
Ruislip and Northwood : Town Plan.
Sheringham : Council Offices.
Southampton : Hartley University College (New Buildings).
Swansea : Corporation Buildings.
Taunton : Council School.
Tickhill : Seven Cottages.
Winchester : Elementary School Buildings.

Finance. The Balance Sheet and other financial statements appended to this Report indicate the manner in which the Council have utilised the accumulated funds of the Institute for the purpose of obtaining greatly enlarged and improved premises on a practically permanent tenure. By the purchase of Messrs. Knight, Frank & Rutley's leases, followed by the purchase of the shares of the Architectural Union Company, the Royal Institute now finds itself practically in the position of a freeholder of the whole premises extending from Conduit Street to Maddox Street. The expenditure necessarily entailed amounted to a larger sum than was immediately available, and an overdraft not to exceed £7,000 has been negotiated with the Bankers to supply the funds temporarily needed. It is expected that the

balance of income over expenditure in the next few years will be sufficient to liquidate the debt.

Henry Jarvis Bequest.

Under the will of the late Henry Jarvis, *Fellow*, who died on the 4th March 1910, the Royal Institute received the most important bequest that has ever fallen to it. When certain legal procedure has been concluded it is anticipated that the Council will have to dispose of the sum of at least £20,000. The Council have appointed a Committee to consider and advise them as to the best method of employing the bequest.

REPORT OF THE BOARD OF ARCHITECTURAL EDUCATION.

The Board has held eight meetings since the issue of the last Report, one of these being held by the old Board.

At the first meeting of the new Board, appointed by the Council under the terms of the Supplemental Charter, Sir Aston Webb, who had acted as Chairman of the old Board for six years, being unable to act further in that capacity, Mr. Reginald Blomfield, A.R.A., was appointed Chairman, Mr. Ernest Newton, Vice-Chairman, and Messrs. John Slater and John W. Simpson, Honorary Secretaries.

The old Board of Examiners (Architecture) having ceased to exist, the Board has conducted the Institute Examinations and reported the results to the Council.

At the request of the Council, a Committee of the Board has reported generally on the question of the Examination of Licentiates desiring to become Fellows, and is now engaged in drawing up a syllabus for that Examination. The same Committee is considering the question of certain alterations in the syllabus of the course of training for students originally drawn up by the Board.

Negotiations are proceeding with the Universities with regard to the appointment of their External Examiners. At present the Board has no voice in such appointments, and in view of the fact that in connection with the Examinations at the Universities and Schools exemptions are granted from the Institute Intermediate Examination, the Board consider that it is most desirable that the Institute should be kept in touch with these Examinations. These negotiations are the outcome of a Conference between the Chairman of the Board and representatives of the Universities and Schools, and there is every reason to hope that a satisfactory solution of the present difficulty will shortly be reached. A further report will be made to the Council.

A Joint Committee of the Board and the Prizes and Studentships Committee has been considering the best means of co-ordinating the work of the two bodies, and the Council, acting on the recommendation of this Joint Committee, has deputed the Board to take over the work of the Prizes and Studentships Committee.

REPORT OF THE ART STANDING COMMITTEE.

Since the last review of the work of the Art Committee, five meetings have been held. Mr. Henry T. Hare was elected Chairman, Professor W. R. Lethaby Vice-Chairman, while Mr. Guy Dawber and Mr. W. A. Forsyth were re-appointed Hon. Secretaries.

Of the varied subjects under consideration, the following selection deals with the more important matters.

It is gratifying to observe that the opposition of the London County Council supported by the Royal Institute, on the recommendation of the Art Committee, with regard to the proposed erection of a Mission Hall upon vacant land adjacent to the *Church of St. James', Piccadilly*, has been successful and that Parliament has rejected the measure intended to promote the object.

Additional correspondence took place and some further action was taken by the Council, in

response to the suggestion of the Committee, in opposing the granting of the Faculty for extending and altering the very interesting *Church at Puddletown in Dorset*. The Chancellor of the Diocese granted the application and in replying to the Council of the Royal Institute courteously gave his reasons for his decision. It is a matter of regret that the efforts of the Institute did not secure the result which Architects generally and Archæologists so greatly desired.

The proposed demolition of the *Sir Robert Geffery Almshouses in Shoreditch*, and the erection of buildings upon the vacant site, was considered at length. The Committee recommended the Council to associate itself with the general movement to secure the preservation of the old buildings. There is every reason to hope that this desirable end will be attained.

The new *St. Paul's Bridge* was the subject of further discussion, when the Committee was strongly in favour of the Council presenting a memorial to the City Corporation urging the assistance of the most competent artistic and architectural advice in the preparation of the design. As will be seen from the general Report the Council has been continuously engaged in recommending this course to the City Authorities and is now petitioning Parliament to reject the measure.

The assistance of the Committee was sought in an endeavour to preserve an old cottage in the village street at *Limpsfield in Surrey*. Very complete information was obtained from the owners and others, and after carefully considering all the circumstances, it was decided that the matter was one in which the influence of the Royal Institute could serve no useful purpose beyond the efforts already made by other public bodies.

An important matter concerning the classic buildings in *Manchester* engaged the attention of the Committee. It is to be regretted that the *Old Town Hall*, now used as a public reference library, is threatened with demolition. The building is a fine work of the early part of the 19th century, strong and expressive of its purpose. The interior is admirable, while the principal rooms on the upper floor cannot be surpassed for dignity, proportion, and the application of Classic design to a practical and convenient plan. It is hoped that the Council's representations may influence the preservation of the building.

Some *City Churches* and other important London buildings faced with Portland Stone have recently been repaired by patent process. It is too early to make any comment upon such treatment, but the Committee is watching the effect of the means thus taken to preserve the stone work. The co-operation of all members of the Institute is desired in making observations of this kind and in reporting such works to the Secretary.

Whilst on the subject of buildings in London, it is further desired to draw members' attention to the fact that the Art Committee is directing its labours towards *Minor Improvements*. As a rule, matters concerning the artistic improvement of London are of a somewhat large scale and not infrequently beyond the scope of action of the Institute. Much remains to be done with regard to smaller affairs, and the Committee much desires the co-operation of members generally in promoting improvements in the many details which add materially to the interest of our streets and buildings.

As an example, representations have been made to the Council urging the importance of the better display of street names. The tablets in use are of varied kinds, yet possess little merit as such. The type of lettering is as a rule bad and the setting of the names has little interest. Government Offices receive the same street name-plate as the private dwelling in a back street. It is hoped that the Institute's recommendations may conduce to uniformity of type and tablet in the respective administrative areas.

The Committee's attention will be given to other matters in due course.

A list of suggestions for the titles of *Sessional Papers* was prepared and submitted to the Council, in which the claims of the art of architecture were duly regarded.

Attention was drawn to the unsatisfactory results of some of the new premises in the scheme of rebuilding in *Regent Street*. It was felt that all hope of a traditional uniform treatment of the buildings is gone. It was apprehended, however, that the variety in scale, style, and outline in some of the recently completed works was productive of ultimate restless confusion. The Committee considered that much could yet be done by the regulation of scale and skyline in the future buildings, and recommended the Council to approach H.M. First Commissioner of Woods and Forests with a view to securing these desirable elements. In his courteous reply, the Commissioner informed the Council that he was conscious of the necessity for such desirable considerations in the new works and that it would be found that the newly completed buildings were in many cases the component parts of complete blocks, and although there were objections to a single treatment, the results would show a less varied design than the new premises appeared to suggest.

With regard to the decoration of the Royal Institute premises for the *Coronation*, the Committee was unanimous in recommending that the work be placed in the hands of Mr. Henry T. Hare, who has so successfully transformed the interiors of No. 9, Conduit Street.

At the request of the Council, recommendations have been made for holding *Exhibitions* of Architects' Work in the new Galleries, which it is hoped will be the means of stimulating public interest in British Architecture.

REPORT OF THE LITERATURE STANDING COMMITTEE.

Eight meetings have been held since the election of the present Committee.

At the beginning of the Session the following officers were elected: Mr. R. Phené Spiers, Chairman; Mr. H. H. Statham, Vice-Chairman; Mr. C. Harrison Townsend and Mr. W. Henry Ward, Honorary Secretaries.

The recommendation of the republication of Professor R. Willis's Essay "On the Construction of the Vaults of the Middle Ages," which originally appeared in the Institute Transactions of 1842, having been adopted by the Council, as mentioned in the Committee's last Report, the Essay has now been issued in book form, and may be purchased by members of the Institute and others.

The Committee have to report that the arrangement of the Library and the facilities for members consulting the books have been greatly improved since the Institute has become the owner of the property. Additional shelves have been provided for folio volumes. The Committee have under consideration the question of providing reading-tables of a more convenient size for tracing and the use of large volumes, as well as a more prominent position for the Arthur Cates Bequest, and have submitted recommendations to the Council thereon.

At the request of the Council the Committee have submitted recommendations for Sessional Papers for the coming Session.

The Council have adopted a recommendation of the Committee that a sum not exceeding £20 be expended in obtaining photographs of the John Webb Drawings preserved at Worcester College, Oxford.

The Librarian reports to the Committee as follows:—

During the twelve months ending the 31st March of the present year 227 volumes and 44 pamphlets have been added to the Library of the Royal Institute, exclusive of periodicals, reports, and Transactions of Societies, and parts of works issued in serial form.

The number of works presented was 125 volumes and 44 pamphlets.

The number of works purchased comprised 103 volumes, of which 40 were added to the Loan Library.

The attendance of readers in the Reference Library numbered 5,054.

The number of books issued on loan was 3,908.

The number of tickets issued for admission to the Library, other than to members of the Institute or to Students and Probationers, was 71.

The number of books issued through the post was 309.

In connection with the above statistics, it is necessary to note that in consequence of the alterations to the premises and of the Town Planning Conference, the Library was not available for purposes of study from the beginning of September until the third week in October, and that the use of the Loan Collection during the same period was not fully available to readers.

LIBRARY STATISTICS 1910–11.

Date	Day Attendances.			Evening Attendances.			Books issued on Loan.
	Members.	Non-Members.	Total.	Members.	Non-Members.	Total.	
1910.							
April	134	267	401	39	139	178	399
May	89	189	278	50	101	151	321
June	142	186	328	46	110	156	344
July	136	142	278	35	79	114	258
August	Reference Library closed.			Reference Library closed.			17
September	49	75	124	3	29	32	260
October	91	153	244	37	72	109	310
November	157	193	350	64	119	183	404
December	138	151	289	57	59	116	241
1911.							
January	190	208	398	85	131	216	421
February	136	174	310	76	114	190	402
March	154	189	343	95	171	266	531
Total	1,416	1,927	3,343	587	1,124	1,711	3,908

Special presentations to the Library have been received as follows:—

The Executors of the late Professor Aitchison: A large collection of water-colour drawings (52 sheets) of work designed by the Professor, as well as some volumes from his library.

The Olympic Academy of Vicenza: 52 photographic reproductions of drawings by Palladio from the Academy's collection of original drawings.

The Société des Architectes Diplômés par le Gouvernement: *Recueil publié à l'occasion de la millième adhésion à la Société*, a commemorative volume containing examples of the work of the Society's most distinguished members.

Mr. J. D. Crace: Four sheets of original drawings by William Kent.

Mr. J. E. Franck: Three views of Rome by Alessandro Specchi and Giuseppe Vasi.

Monsieur Henri Paul Nénot: A copy of his finely illustrated monograph on the New Sorbonne.

Monsieur Henri Blomme: His work entitled *La Reconstitution de la Maison Rubens.*

Mr. Francis D. Bedford, through Professor Beresford Pite: A collection of valuable books, including Inwood's *Erechtheion*, Desgodetz's *Ancient Buildings of Rome*, and the *Unedited Antiquities of Attica.*

Mr. Archibald M. Dunn: A valuable collection of books including Gruner's *Terra-Cotta Architecture of North Italy*, Owen Jones's *Grammar of Ornament*, Wickes's *Towers and Spires*, Wanderer's *Adam Krafft und seine Schule*, as well as a miscellaneous collection of photographs.

Mrs. Arthur Cates has also added further volumes to the Arthur Cates Collection.

Donations of books or pamphlets have also been received from Herr Ferdinand Fellner, Mr. Benj. Ingelow, Mr. W. H. Ward, Signor M. E. Cannizzaro, Mr. John Bilson, Mr. F. Drake, Mr. H. P. Burke Downing, Monsieur Louis Dausset, Mr. W. P. D. Stebbing, Mr. Welbore St. Clair Baddeley, Mr. Banister F. Fletcher, Mr. Reginald Blunt, Mr. Arthur Crow, and Mr. Tavenor-Perry.

Amongst the books purchased or acquired during the year the following may be mentioned: Baum's *Romanische Baukunst in Frankreich*; Lachner's *Geschichte der Holzbaukunst in Deutschland*; Millet's *Monuments Byzantins de Mistra*; Contet's *Les Vieux Hôtels de Paris*; Garner and Stratton's

Domestic Architecture in England during the Tudor Period; Choisy's *Vitruve*; Kowalczyk and Gurlitt's *Denkmäler der Kunst in Dalmatien*; British Museum, *The Sculptures of the Parthenon*; Georgian Society of Dublin, *Records of Eighteenth Century Domestic Architecture in Dublin*; Venturi, *Storia dell' arte Italiana*; Nénot's *Monographie de la Nouvelle Sorbonne*; Tavenor-Perry's *Dinanderie*; Vitry's *Hôtels et Maisons de la Renaissance Française*; Du Gard's *L'Abbaye de Jumièges*; Gusman's *L'Art décoratif de Rome*; Beresford Pite, F. T. Baggallay, and others, *Building Construction* (The Architect's Library Series); Ferrari's *Il Ferro nell' arte Italiana*; *Il Legno nell' arte Italiana*; *Lo Stucco nell' arte Italiana*; and Gromort's *Grandes Compositions*.

REPORT OF THE PRACTICE STANDING COMMITTEE.

At the commencement of the Session the following officers were elected:—Chairman, W. Henry White; Vice-Chairman, George Hubbard; Hon. Secretaries, Herbert A. Satchell and H. John Pearson.

Ten meetings have been held since the date of the last Annual Report.

The Committee have received and carefully dealt with and advised upon a large number of references from the Council bearing upon professional and technical questions arising out of conditions of contract, professional charges, local by-laws, responsibilities of architects to clients, relationship of contractors and sub-contractors, and other matters as set forth in the minutes of the Committee, but which, being of a confidential character, cannot be detailed in this Report.

Various points in connection with the Institute Form of Contract have occupied the attention of the Committee at many meetings, and several important matters requiring serious consideration with a view to amending the Form in several particulars have now been referred to a Sub-Committee to report upon, and the Committee hope soon to be in a position to report to the Council thereon.

Last Session a Sub-Committee was appointed to consider the question of revising the Schedule of Professional Charges; their labours not being finished at the end of the Session they were re-appointed, and are still giving the subject their careful consideration, having sat on many occasions and considered a mass of correspondence—the result of the Circular sent out by the Council inviting suggestions from members—and the Committee is expecting their report at an early date.

Questions having been asked as to whether an architect should hold a valuer's licence when valuing for mortgages or issuing final certificates, and if the latter should be upon stamped paper, the Committee after consideration submitted a request to the Council that legal opinion should be obtained upon these points for the benefit of members of the Institute.

A suggestion from the London Master Builders' Association that representatives of Societies concerned should meet and discuss the regulations with regard to applications under Part III. of the London County Council General Powers Act, 1908, was referred to this Committee by the Council of the R.I.B.A., and the Committee recommended that a Conference be held, which was subsequently arranged by the Council. As a result of the Conference steps were taken to obtain from the London County Council an opportunity to consider any future regulations based on the above Act in draft before they are issued.

The Council having invited the Committee to make suggestions for Sessional Papers, the following was submitted for their consideration, viz.:—That a Paper or Papers be prepared "On the newer responsibilities of Architects, and the need of defining such responsibilities, with the view of publishing on behalf of members of the Institute a guide to practice." This suggestion was accepted, and the Committee hope an evening early in next Session will be set apart for these Papers.

Clause No. 21 of the Institute Form of Contract again produced questions as to the Em-

ployer's liability under the 1907 Amendment of the Workmen's Compensation Act of 1897, and the Committee has had to point out that in the opinion expressed by the Solicitor to the Institute in his communication of the 16th February 1910 the Employer's liability is not covered by the Clause.

At the request of the Council the Committee have considered the Conditions of Contract issued last year by the Royal Institute of Architects of Ireland, and after receiving a report from a Sub-Committee who were appointed to compare them with the R.I.B.A. Conditions of Contract, it was considered unnecessary to make any recommendations or criticisms thereon.

The Nottingham Society of Architects having introduced into the Form of Contract adopted by their Society a restricted arbitration clause, and the Council of the Institute having asked the Committee to consider this clause with a view to its adoption where required, the Committee suggested that an opinion from the Solicitor to the Institute should first be obtained. This was done, and his opinion was generally unfavourable to the changes made from the Institute Clause. The Committee, having further considered the matter, recommended the Council that no further action be taken therein.

A considerable portion of the Committee's time is wasted owing to applications for advice coming before them with insufficient or *ex parte* information, and other matters are submitted by employers or solicitors without the knowledge of the architect concerned, and the Committee regret that in such cases it is impossible to give advice. It is desirable that when the opinion of the Committee is required promptly, that full details of the case be laid before them.

It is to be noted with satisfaction that under the new By-law No. 51, one of the co-opted members of each of the Standing Committees must be a member of the Council. This removes the difficulty referred to in the last Annual Report *re* the effectual presentation of the views of the Standing Committees before the Council.

REPORT OF THE SCIENCE STANDING COMMITTEE.

Since the issue of the last Report nine meetings have been held by the Science Committee, at which the average attendance has been twelve. The following officers were elected at the beginning of the Session: Mr. H. D. Searles Wood (Chairman); Mr. Matt. Garbutt (Vice-Chairman), and Messrs. Alan E. Munby and W. Wonnacott (Hon. Secretaries).

Steel-Framed Buildings.—In reviewing the work of the Session two subjects seem to stand out as specially important to the profession generally. It will be remembered that in the case of steel-framed buildings under the L.C.C. General Powers Act of 1909, it becomes incumbent upon architects submitting drawings to the District Surveyor to show details of such steel-work, including calculations of loads and stresses. With a view to the formation of a uniform scheme for such presentation, the District Surveyors' Association has drawn up a form for nomenclature and a tabular statement for the submission of these details, which has been submitted to several bodies concerned, including the R.I.B.A., for criticism. The Science Committee, having regard to the importance of simplifying and reducing the labour involved in dealing with this additional burden upon architects, has devoted much time to the discussion of this draft, and made a number of recommendations, which have been accepted by the District Surveyors' Association as improvements. In connection with the above regulations, the Committee have submitted a table of suggested standard weights for various materials for calculation purposes. The advantage of a uniform and generally accepted basis for weights of brick walls, concrete floors and similar materials appearing in all load calculations, is obvious. It is hoped that these Regulations may appear *in extenso* in the JOURNAL at a later date.

Researches on Materials.—The other field of most general interest has perhaps not opened sufficiently to justify any report, but mention of it is made with a view to enlisting interest and support. The Committee have for some time felt that many questions of great importance to architects and the building trades, dealing with materials and their defects, ought to form the subject of researches which are beyond the scope of any single professional or trade organisation. To cite investigations which come to the mind, the forest infection of timber with dry rot, the efflorescence of brick and plaster, and the action upon iron of various patent flooring compositions may be mentioned. A letter has been written asking whether the Council will support an effort on the part of the Committee to obtain some representation of architects' special interests, with the object of initiating such researches in one or more existing technical institutions, and, if necessary, inviting joint action for an appeal to the Government for a grant in aid. It is a pleasure to be able to report that the Council have given approval to the scheme which will now be further proceeded with.

Mortar Tests.—Turning from work initiated to work concluded, it is now possible to present the results of the mortar tests which have been carried out by Mr. Dibdin, and which reached finality in January last, when the Committee paid a visit of inspection to the analyst's laboratory. The very large amount of data obtained has been digested and arranged, and will be presented later *in extenso*. It may be stated here, however, that the results have confirmed those given in the Paper read before the Institute by Mr. Dibdin on December 17, 1906, but the longer period over which the later tests have extended has enabled certain additional data to be obtained which conclusively show that whilst with mortars of good quality the results of the short-period tests are reliable, inferior qualities show a marked deterioration over the longer period. A valuable outcome is the indication of the best proportions to be used with a given matrix or aggregate to obtain the best results. Another valuable point is the comparison of ancient mortars of excellent quality with those made for these tests, with the result that certain preconceived ideas as to proportions and cause of strength must undergo considerable modification.

Building Stones.—Last year a small International Committee was formed as a branch of the International Society for the Testing of Materials, to inquire into the effects of mortar in producing decay in stone and brick, and one of the Hon. Secretaries of the Science Committee was invited to serve in his private capacity. The attention of the Museum of Practical Geology was drawn to the formation of the International Committee, which resulted in the election of the Curator of the Museum, Mr. J. Allen Howe, who attended a meeting held in Holland and Germany in October. Since then the Science Committee has become formally represented, and has been asked by the Council to act as representing the Royal Institute on this body, and a series of questions dealing with defective stone-work, from which it is hoped valuable information may result, are about to be issued to the professional Press. The Science Committee trust that in the interests of architects, members of the Institute will do what they can to further the investigation by sending replies to these questions. In last year's Report reference was made to the formation of a Collection of Micro-photographs of Building Stones as an assistance to architects in comparing the qualities of and in identifying stones. These photographs have now been obtained from the Geological Museum, and the Committee is indebted to the Curator of the Museum, Mr. Howe, for kindly adding a brief description of each. The photographs are being mounted in a book, for which the Committee has prepared a short introduction, and in this connection consider it a matter for regret that the Council should have parted with the Collection of Building Stones which, it is understood, were those formed by the Royal Commission on the Houses of Parliament, and presented by the Government, and which would have been of great value for joint study with the photographs in question.

Monograph on Paints.—The *Monograph on Paints* promised in the last Report has been issued and placed on sale as an Institute publication. Although it is too early to judge of its results, that it has aroused a certain amount of interest is evident from the fact that the Departmental Committee on Paints recently formed by the Home Office has requested two members of the Sub-Committee which drew up the brochure to attend to give evidence on the subject of the use of lead paints. The *Monograph* has also formed the subject for discussion at a recent meeting of a Trade Society, which was attended by representatives of the Science Committee.

Among minor matters dealt with may be mentioned the approval of the Registration of Plumbers' Work, by means of a dated stamp to be affixed thereto, enabling the workman responsible to be identified in case of defects or subsequent disputes. The Committee have also under investigation some interesting samples of defective old lead, which are in the hands of an expert, who is reporting upon their composition and micro-structure.

REPORT OF THE AUDITORS FOR 1910.

We have examined the books and checked the accounts for the year 1910 with the vouchers, also the securities in accordance with the certificates and scrip, and find that they agree with the Balance Sheet prepared by the Accountants.

With the exception of the shares held in the Architectural Union Company, the whole of the investments (Ordinary Funds) have been realised and the money expended in acquiring the lease of the premises in Conduit Street, also in making extensive alterations to suit the convenience of the Institute.

Unfortunately the sale of the stocks and shares resulted in a loss of about £2,300 (two thousand three hundred pounds). The lease of these premises will now be the only security held by the Institute and we consider it advisable to call attention to the fact that the lease is held under the Corporation of the City of London and notice of renewal must be given at Michaelmas 1921 and a fine of £98 (ninety-eight pounds) paid in the year 1922 and a like amount every succeeding fourteen years. We are of opinion that a Sinking Fund should be formed to produce the requisite payments at the proper times.

The capital of the Travelling and Charitable Funds has been disposed of, and we think these accounts should no longer be mentioned in the Balance Sheet.

The funds of the Ashpitel and of the Anderson and Webb Trusts are invested in the Architectural Union Company's shares, and, as the whole of the shares in this Company have been acquired by the Institute, when the Company is wound up a sum of money should be allocated and invested in a good security to produce an income similar to that at present derived.

We notice that the Honorary Associates pay annual subscriptions of two guineas; should not this paradox receive consideration?

The Staff of the Institute is to be congratulated on the very careful and efficient way in which the account books are kept, thereby greatly simplifying investigation.

JOHN HUDSON [*F.*]
WILLIAM H. BURT [*A.*] } *Hon. Auditors.*

FINANCES.

The Accounts of Ordinary and Trust Funds for 1910 prepared by Messrs. Saffery, Sons & Skinner, Chartered Accountants, and audited by Messrs. John Hudson [*F.*] and William H. Burt [*A.*], *Hon. Auditors*, here follow :—

Income and Expenditure Account of Ordinary Funds for the Year ended 31st December 1910.

Dr. Exclusive of Entrance Fees, Final Examination Fees, and Subscriptions in advance. **Cr.**

EXPENDITURE.

	£ s. d.	£ s. d.
To Ordinary Expenditure—		
Rent	1337 10 0	
Gas and Electric Lighting	137 14 4	
Coals	30 17 0	
		1506 1 4
Salaries		2322 1 4
General Printing, Stationery, Stamps, and Petty Expenses		1308 7 8
General Meetings and Exhibitions		422 3 11
Housekeeping		342 0 5
Advertisements		86 5 10
Examination Expenses		404 14 0
General Repairs		86 12 11
Fire Insurance		41 19 9
Medals and other Prizes		183 12 0
Grant to Library	150 0 0	
Grant to Architectural Association	100 0 0	
Grant to Royal Architectural Museum	21 0 0	
Grant to Architectural Association Sketch Book	25 0 0	
Grant to Architects' Benevolent Society	100 0 0	
Grant to Artistic Copyright Society	26 5 0	
Grant to Sheffield Society	12 10 0	
Grant to Joint Committee Water Regulations	10 10 0	
Grant to Croydon Antiquities Preservation Society	5 5 0	
Grant to British School at Rome	21 0 0	
Grant to British School of Archæology, Egypt	10 0 0	
		481 10 0
The Journal—		
Reporting	68 9 4	
Printing and Binding	1077 5 11	
Illustrations	240 1 5	
Addressing, Postage, and Carriage	374 5 7	
		1760 2 3
The Kalendar—		
Printing	268 2 1	
Postage and Carriage	50 5 9	
		318 7 10
Contributions to Allied Societies		445 7 0
Miscellaneous Expenses—		
Legal and Accountants' Charges	326 10 4	
Presidents of Allied Societies	55 6 1	
Telephone	31 1 6	
Conversaziones	245 17 0	
Expenses *re* Licentiates' Class, Advertisements, &c.	196 4 5	
Portrait Fund	99 0 6	
Photographs (Burlington-Devonshire Collection)	72 14 5	
Address and Wreath (death of King Edward VII.)	19 3 6	
Subscription to Comité Permanent	8 0 0	
Sundries	63 13 0	
	1117 10 9	
Town Planning Conference (being the amount of special expenditure on account of the Conference to 31st December 1910)	560 3 6	
		1677 14 3
Interest on Loan		280 7 9
Dinner (deficit)		71 11 0
		£11739 19 3

Saffery, Sons & Skinner,
Chartered Accountants.

INCOME.

	£ s. d.	£ s. d.
By Ordinary Income—		
Subscriptions—		
833 Fellows at £4 4*s.*	3498 12 0	
Ditto Arrears	105 0 0	
1 Reinstated	8 8 0	
1341 Associates at £2 2*s.*	2816 2 0	
1 Associate at £1 1*s.*	1 1 0	
Ditto Arrears	136 18 0	
40 Hon. Associates at £2 2*s.*	84 0 0	
Ditto Arrears	7 7 0	
260 Licentiates at £1 1*s.*	273 0 0	
		6930 8 0
Dividends on Stocks and Shares—		
Architectural Union Co.	234 1 8	
Consols	52 3 3	
New South Wales Stock	16 10 0	
Tasmanian Government Stock	62 10 2	
Canada Stock	46 19 3	
London County Council Stock	32 8 4	
Queensland Government Stock	46 8 6	
Newfoundland Stock	32 19 2	
London and North Western Railway Stock	32 16 4	
Bank Stock	9 3 4	
Madras Railway Stock	36 19 9	
Great Northern Railway Stock	31 9 0	
Great Western Railway Stock	35 4 6	
Cape of Good Hope Stock	50 6 4	
West Australian Stock	67 16 0	
Interest on Deposit	12 4 11	
		800 0 6
Journal and Kalendar—		
Advertisements	1000 0 0	
Sales of Journal	88 8 0	
Other Publications	490 1 4	
		1578 9 4
Examination Fees—		
Statutory	36 15 0	
Preliminary	501 18 0	
Intermediate	522 18 0	
Special and Final (forfeited)	514 10 0	
		1576 1 0
Use of Rooms—		
District Surveyors' Association	25 0 0	
R.I.B.A. Tenants	121 5 0	
		146 5 0
Deficit for the year 1910 carried to Balance Sheet		707 15 5
		£11738 19 3

Examined with the vouchers and found to be correct. *3rd April* 1911. (Signed) { John Hudson [*F.*]. / William H. Burt [*A.*].

Balance Sheet of Ordinary Funds, 31st December 1910.

Dr. **Cr.**

LIABILITIES.

	£ s. d.	£ s. d.
To Sundry Creditors		1273 14 10
Bank Overdraft		6176 4 3
Loan from Bankers		2000 0 0
Examination Fees anticipatory of election		352 16 0
Subscriptions received in advance		237 6 0
Charitable Fund		969 14 7
Travelling Fund		1385 4 0
Accumulated Fund—		
Balance as per last Account	£24038 1 2	
Add Building Fund	1306 16 1	
Entrance Fees in 1910—		
Fellows £28 7 0		
Associates 330 15 0		
	359 2 0	
Arrears for 1910 (as per contra)	343 7 0	
	26047 6 3	
Less Net Losses on Realisation of Investments 2300 14 0		
Arrears for 1909, since received or cancelled 321 16 0		
Furniture and Fittings bought 69 18 0		
	2692 8 0	
	£23354 18 3	
Less Deficit of Income and Expenditure Account for 1910	707 15 5	
		22647 2 10
		£35042 2 6

Saffery, Sons & Skinner,
Chartered Accountants.

ASSETS.

	£ s. d.	£ s. d.
By *Investments at cost*—		
1037 Shares, Architectural Union Co.		15251 1 0
New Premises—		
Balance as per last Account	1178 15 0	
Add Further Expenditure in 1910—		
Acquisition of Lease	9100 0 0	
New Premises (Alterations, &c.)	7586 14 2	
Expenses *re* Purchase of A.U.C. Shares	1350 17 0	
		19216 6 2
Debtors, Rent, Advertisements, &c.		191 13 4
Subscriptions in Arrear for 1909	39 15 0	
Ditto 1910	343 7 0	
		383 2 0
		£35042 2 6

Examined with the vouchers and found to be correct. *3rd April* 1911. (Signed) { John Hudson [*F.*]. / William H. Burt [*A.*].

Revenue Accounts of Trust Funds for the Year ended 31st December 1910.

Dr.

	£	s.	d.
Ashpitel Prize Fund:—			
To Cost of Ashpitel Prize [Mr. W. J. Roberts] [*A.*]	10	0	0
To Balance carried forward	55	15	10
	65	15	10
Anderson and Webb Fund:—			
To Amount Paid to Mr. Halsey Ricardo [*F.*]	5	1	1
To Balance carried forward	165	3	7
	170	4	8
Arthur Cates Legacy:—			
To Amount paid Prizeman [Mr. C. Carus-Wilson]	42	0	0
To Balance carried forward	68	4	0
	110	4	0
Donaldson Testimonial Fund:—			
To Balance carried forward	13	0	9
	13	0	9
Godwin Bursary:—			
To Cost of Medal	1	11	6
To Balance carried forward	58	14	8
	60	6	2
Grissell Legacy:—			
To Cost of Medal	9	18	0
To Grant to Mr. C. P. Walgate	10	10	0
	20	8	0
Library Fund:—			
To Purchase of Books, Binding, &c.	162	19	7
To Petty Expenses	9	18	6
To Balance carried forward	23	5	6
	196	3	7
Owen Jones Studentship:—			
To Amounts paid, viz.:—	£	s.	d.
Mr. A. E. Martin (Student)	50	0	0
Mr. H. R. Wilkinson	10	10	0
To Balance carried forward	147	12	2
	208	2	2
Pugin Memorial Fund:—			
To Amount paid to Students, viz.:—			
Mr. S. Miller	40	0	0
Mr. H. H. Fraser	20	0	0
To Cost of Medal	1	9	6
	61	9	6
Saxon Snell Bequest:—			
To Balance carried forward	117	7	7
	117	7	7
Tite Legacy Fund:—			
To Cash paid Mr. W. A. Robb	10	10	0
To Cash paid Mr. R. M. Gunn	20	0	0
To Balance carried forward	3	9	2
	33	19	2
Wimperis Bequest:—			
To Balance carried forward	129	15	7
	129	15	7

Cr.

	£	s.	d.
By Balance from last Account	48	2	6
By Dividends on 20 Shares, Architectural Union Co., at 17*s.* 8*d.* per Share	17	13	4
	65	15	10
By Balance from last Account	132	5	0
By Dividends on 43 Shares, Architectural Union Co., at 17*s.* 8*d.* per Share	37	19	8
	170	4	8
By Balance from last Account	66	10	2
By Dividends on £1160 4 per Cent. N.-E. Railway Preference Stock	43	13	10
	110	4	0
By Balance from last Account	10	8	9
By Dividends on £72 L. & N.-W. Railway 4 per Cent. Consolidated Preference Stock	2	12	0
	13	0	9
By Balance from last Account	21	10	2
By Dividends on £1030 Caledonian Railway 4 per Cent. Stock	38	16	0
	60	6	2
By Balance from last Account	3	13	9
By Dividends on £20 0*s.* 8*d.* "B" Annuity Great Indian Peninsula Railway	13	10	0
By Balance carried forward	3	4	3
	20	8	0
By Balance from last Account	23	1	7
By Annual Donation from Mr. Sydney Smirke	5	0	0
By Annual Grant from Ordinary Funds	150	0	0
By Entrance Fees of Hon. Associates	16	16	0
By Fines, &c. (Loan Library)	1	6	0
	196	3	7
By Balance from last Account	99	7	0
By Dividends on £2128 Midland Railway 2½ per Cent. Stock	50	2	0
By Dividends on £1247 Great Western Railway 5 per Cent. Consolidated Stock	58	13	2
	208	2	2
By Balance from last Account	7	19	10
By Dividends on £1070 L. & N.-W. Railway 4 per Cent. Consolidated Preference Stock	40	8	0
By Balance carried forward	13	1	8
	61	9	6
By Balance from last Account	94	7	5
By Dividends on £698 4*s.* New Zealand 3½ per Cent. Stock	23	0	2
	117	7	7
By Balance from last Account	7	1	10
By Dividends on £1150 2½ per Cent. Consols	26	17	4
	33	19	2
By Balance from last Account	100	16	7
By Dividends on £1024 18*s.* 8*d.* Metropolitan Water Board Stock	28	19	0
	129	15	7

Saffery, Sons & Skinner,
Chartered Accountants.

Examined with the vouchers and found to be correct. *3rd April* 1911 (Signed) { John Hudson [*F.*]. William H. Burt [*A.*].

Dr *Balance Sheet of Trust Funds, 31st December 1910.* **Cr.**

	£	s.	d.
To ASHPITEL PRIZE FUND:—			
Capital—20 Shares in the Architectural Union Company, Limited, at £14 per Share	280	0	0
Balance at credit of Revenue Account	55	15	10
To ANDERSON AND WEBB FUND (Board of Architectural Education):—			
Capital—43 Shares in the Architectural Union Company, Limited, at £14 per Share	602	0	0
Balance at credit of Revenue Account	165	3	7
To ARTHUR CATES LEGACY FUND:—			
Capital—£1160 N.-E. Ry. 4 per Cent. Preference Stock	1504	5	6
Balance at credit of Revenue Account	68	4	0
To DONALDSON TESTIMONIAL FUND:—			
Capital—£72 L. & N.-W. Railway 4 per Cent. Consolidated Preference Stock	89	0	0
Balance at credit of Revenue Account	13	0	9
To GODWIN BURSARY FUND:—			
Capital—£1030 Caledonian Railway 4 per Cent. Debenture Stock	1344	13	6
Balance at credit of Revenue Account	58	14	8
To GRISSELL LEGACY FUND:—			
Capital—£200s. 8d. "B" Annuity Great Indian Peninsula Railway	513	14	10
To LIBRARY FUND:—			
Balance at credit of Revenue Account	28	5	6
To OWEN JONES STUDENTSHIP FUND:—			
Capital—£2128 Midland Railway 2½ per Cent. Debenture Stock (£ 1773 0 0)			
£1247 Great Western Railway 5 per Cent. Consolidated Guaranteed Stock (2114 12 9)			
	3887	12	9
Balance at credit of Revenue Account	147	12	2
To PUGIN MEMORIAL FUND:—			
Capital—£1070 L. & N.-W. Railway 4 per Cent. Consolidated Preference Stock	1342	12	6
To SAXON SNELL BEQUEST:—			
Capital—£698 4s. New Zealand 3½ per Cent. Stock	700	0	0
Balance at credit of Revenue Account	117	7	7
To TITE LEGACY FUND:—			
Capital—£1150 2½ per Cent. Consols	1109	1	6
Balance at credit of Revenue Account	3	9	2
To WIMPERIS BEQUEST:—			
Capital—£1024 18s. 8d. Metropolitan Water Board 3 per Cent. "B" Stock	1000	0	0
Balance at credit of Revenue Account	129	15	7
	£13155	9	5

SAFFERY, SONS & SKINNER,
Chartered Accountants.

	£	s.	d.
By Government and other Securities for total book value of Trust Funds invested	12373	0	7
By GRISSELL LEGACY FUND:—			
Balance at debit of Revenue Account	3	4	3
By PUGIN MEMORIAL FUND:—			
Balance at debit of Revenue Account	13	1	8
By Cash, Ordinary Funds Bank Account	766	2	11
	£13155	9	5

Examined with the vouchers and found to be correct. *3rd April* 1911. (Signed) { JOHN HUDSON [*F.*]. WILLIAM H. BURT [*A.*].

The Council submit an Estimate of Income and Expenditure of Ordinary Funds for the year ending 31st December 1911, exclusive of Entrance and Final Examination Fees:—

Rough Estimate of Income and Expenditure for Year ending 31st December 1911.

ORDINARY EXPENDITURE.	£	s.	d.
Rent	1740	0	0
Rates	60	0	0
Lighting and Warming	10	0	0
Salaries	2322	0	0
General Printing and Stationery, &c.	1200	0	0
General Meetings, &c.	350	0	0
Housekeeping	350	0	0
Advertisements	85	0	0
Examination Expenses	350	0	0
General Repairs	100	0	0
Fire Insurance	50	0	0
Medals and Prizes	200	0	0
Grant to Library	150	0	0
Other Grants	350	0	0
JOURNAL	1900	0	0
KALENDAR	350	0	0
Contributions	500	0	0
Legal and Accountants' Charges	250	0	0
Contingencies	500	0	0
Interest on Loan and Overdraft	280	0	0
	11297	0	0
Estimated Balance	403	0	0
	£11700	0	0

ORDINARY INCOME.	£	s.	d.
Subscriptions and Arrears	7500	0	0
A. U. C. Dividend	930	0	0
Sale of Publications	600	0	0
Advertisements	1000	0	0
Use of Rooms	95	0	0
Examination Fees	1475	0	0
Galleries	100	0	0
	£11700	0	0

EXTRAORDINARY EXPENDITURE.	£	s.	d.
Town Planning Conference	1500	0	0
	£1500	0	0

EXTRAORDINARY INCOME.	£	s.	d.
Sale of Town Planning Conference Publications	105	0	0
Estimated Deficit	1395	0	0
	£1500	0	0

REPORT OF THE ROYAL INSTITUTE COMMITTEE ON COPYRIGHT.

MEMBERS OF THE COMMITTEE:

JOHN W. SIMPSON [*F.*], *Chairman.*

JOHN BELCHER, R.A. [*F.*].
E. GUY DAWBER, *Vice-President R.I.B.A.*
EDWIN T. HALL [*F.*].
HENRY T. HARE, *Hon. Sec. R.I.B.A.*
EDWIN L. LUTYENS [*F.*].
C. H. B. QUENNELL [*F.*].
JOHN SLATER [*F.*].
H. H. STATHAM [*F.*].
LEONARD STOKES, *President R.I.B.A.*
PERCY B. TUBBS [*F.*].
WM. WOODWARD [*F.*].
IAN MACALISTER, *Sec. R.I.B.A.*

February 1911.

TO THE PRESIDENT AND COUNCIL, ROYAL INSTITUTE OF BRITISH ARCHITECTS—

GENTLEMEN,—In accordance with the reference to us under your minute of 19th September 1910 we have had under consideration the "Bill to amend and consolidate the Law relating to Copyright," introduced last Session by the President of the Board of Trade, with reference to its bearing on the profession of Architecture. We now have the honour to report thereon as follows:—

1. Under the existing law, although the copyright of any particular drawing may be reserved by its Author, no property exists in the design of a building whether executed or not, and neither the Architect nor his client can prevent unauthorised reproductions thereof. For the first time in British legislation the new Bill admits a work of architecture to be entitled to protection from piratical copying; and gives to it the same legal recognition as to works of painting and sculpture, with which it is classed under the definition of "Artistic work."

2. It was obvious that the Bill as drawn required certain modifications before it could be accepted as satisfactory from our point of view, and your Committee desire to acknowledge the valuable assistance of Mr. Macgillivray and of Messrs. Markby, Stewart & Co., in drafting the amendments required. In drawing up these amendments, which will be found set out in full in the copy of the Bill attached to this Report,* your Committee have been guided by a desire to obtain a solid basis for further advantages which may fall within the range of practical politics later on, while not putting forward claims which would certainly be refused in the present state of public opinion in this country. It must be borne in mind that the protection of design in architectural work is as yet an entire novelty in this country, and a moderate attitude is advisable for the present.

In an interview between a deputation of your Committee and Sir Llewellyn Smith and other responsible officials representing the President of the Board of Trade, we were given to understand that the Government would be willing to accept the amendments referred to and to incorporate them in the Bill.

3. Assuming this to be the case, we shall have succeeded in establishing for the profession the following position:—

a. All rights to repeat or reproduce his work will be vested in an Architect as from the moment of its first production whether in its form of a drawing or a building.

b. In cases where work is done by direct commission from the Employer it will be necessary for the Architect to mention, when arranging the terms of his remuneration,

* The various amendments are set out in the Letter to the President of the Board of Trade appended to this Report [pp. 460-62].

that "*all copyright is reserved,*" if he wishes to retain it; and this, your Committee suggest, will be the ordinary procedure in respect of the usual five per cent. remuneration.

Should the Employer desire to purchase the copyright as well as the work, your Committee suggest that it could be a matter for special terms to be arranged between the parties. Alternatively, the R.I.B.A. Schedule of Charges might indicate the approximate additional fee payable. A new form of property will have been created, and it will no doubt be useful to fix a general value for it, if practicable.

c. Even in cases where the copyright of a work has been sold to the Employer, the Architect will still be at liberty to use any sketch, drawing, or study made by him for the purpose of the work so long as he does not repeat the main design.

Mr. Macgillivray says: "I think it is clear that if the work was a complete building he could use the designs for mantelpieces, cornices, &c., in the construction of another building."

d. With regard to the ownership of working drawings, and the startling decision in the case of "Gibbon *v*. Pease," it is of course not possible to speak definitely until a case has come before the Courts after the passing of the new Bill, but your Committee is advised that the strong probability is that the ownership of drawings would be held to follow the ownership of the copyright.

e. The duration of the copyright will be for the Author's life and 50 years after; this being the term settled by the Berne Convention for all countries.

4. The R.I.B.A. Schedule of Charges would require some amendment in order to bring it into accord with the new condition of affairs. A general heading to the following effect might meet the case:—

Copyright in works of architecture being now recognised under the Copyright Act of 1911, it should be noted that under the charges set out in this Schedule *all copyright is reserved by the Architect*. Should the Employer desire to acquire the right of reproducing or permitting the reproduction of the work commissioned by him, special terms will require to be arranged between the Architect and himself (which may vary according to the considerations of the particular case); the sum to be paid for the copyright being stated *separately, and in addition* to the charges set out in this Schedule.

The wording of some of the clauses of the Schedule will require alteration to correspond.

5. The matter has now been successfully carried by your Committee as far as is at present practicable, and it remains for the Council to endorse their action, or reject it, as a matter of general policy. Although in view of the (at this time) imminent probability of the Bill being immediately brought forward by the Government the Committee felt it to be their duty to secure the position of the R.I.B.A. with regard thereto as far as possible, it is quite within the power of the Council to object to the inclusion of architectural works in the Bill, and such an objection would almost certainly result in their being so omitted and in the architectural clauses being withdrawn entirely.

Should the Council decide to take such a step and refuse the opportunity now offered, it would probably mean the exclusion of architectural works from all future protective legislation in this country.

6. Your Committee therefore respectfully recommend that the Bill as amended be approved by the Council, and that the Committee, having now discharged the terms of their reference, be reappointed by the Council to act as may be required in the interests of the Royal Institute and to report thereon to the Council from time to time.

7. For the convenience of members of Council we annex hereto :—

a. Copy of Bill with amendments marked in *red*.

b. Copies of two letters dated 16th November 1910 and 8th February 1911, addressed to the President of the Board of Trade.

On behalf of the Committee on Copyright,
JOHN W. SIMPSON, *Chairman*.

Letters referred to in Clause 7 (*b*) of the foregoing Report.

9 *Conduit Street, W.*: 16*th November* 1910.

To the Right Hon. Sydney Buxton, M.P., President of the Board of Trade.

Sir,—The Royal Institute of British Architects desire to assure you of their support in the great and beneficial work you have undertaken in amending and consolidating the law of Copyright by a Bill which now for the first time recognises Architecture as equally worthy of protection with the sister arts of Painting and Sculpture.

After careful consideration, with a view to disturbing the draft of the Bill as little as possible, and aided by the advice and assistance of their learned adviser, Mr. E. J. Macgillivray, they have decided to request, with great respect, your consent to the following modifications.

1. It is of great importance that the definition of "Architectural work of art" in Section 36 * should include the drawings and models, which embody the intellectual property, of which the building or structure erected therefrom is a reproduction. To this end the following amended wording is suggested :—

Page 20, lines 2-4—*delete* from "in" to "construction" and *substitute* "or any drawing plan or model for such building or structure provided that the protection afforded by this Act shall be confined to the artistic character and design and shall not extend to processes or methods of construction."

2. The Royal Institute also feel that the right of the architect who has parted with his Copyright to use his preliminary studies should be expressed in Section 1 (2) (ii.)† in the same way as that of other artists to use their "moulds, casts, sketches, or studies." They beg therefore that this should be made clear by the insertion of the words "drawing plan model" after the word "sketches."

Mr. Macgillivray further points out that the artist may have parted with his Copyright in the preliminary work, in which case the Act ought to prevent him from making complete copies thereof. He suggests the following revision of the subsection† :—

Page 2, lines 23-28—*substitute for this subsection* the following :—"(ii.) When the author is not the owner of the Copyright in an artistic work Copyright therein shall not be infringed by the author using any mould cast sketch drawing plan model or study made by him for the purpose of the artistic work provided that he does not thereby repeat or imitate the main design thereof."

3. The licence to the public to make paintings, engravings, or photographs of any architectural work in the Draft Bill, Section 1 (2) (iii.),‡ would appear to be dangerously wide. It

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* Definition in Section 36 of the Draft Bill : "'Architectural work of art' means any building or structure having an artistic character or design, in respect of such character or design, but not in respect of the processes or methods of its construction."

† Section 1 (2) (ii.) of the Draft Bill : "Nothing in this Act shall prevent the author of an artistic work who is not the owner of the Copyright therein from using any mould, cast, sketches, or studies made by him for the purpose of the work, provided that he does not thereby repeat or imitate the main design of the work."

‡ Section 1 (2) (iii.) of the Draft Bill : "Copyright in a work of sculpture or artistic craftsmanship, if situate in a public place or building, and Copyright in an architectural work of art, shall not be infringed by making paintings, drawings, engravings, or photographs thereof."

would include a right to make a complete set of architects' plans by examination and measurement of the executed building. It should be made clear that nothing in the nature of architects' drawings may be made from a Copyright building without the consent of the owner of the Copyright. The Royal Institute therefore suggest the following amendment :—

Page 2, line 31—*delete* the words "and Copyright in an architectural work of art," and *add* after "thereof" in line 33, "and Copyright in an architectural work of art shall not be infringed by making paintings drawings engravings or photographs thereof which are not in the nature of architectural drawings or plans."

4. By Section 3 (1) (*a*) of the Government Bill the general rule is that Copyright passes to the employer when a work is executed on commission, but an exception is made in the case of architecture whereby it is provided that the Copyright shall remain with the architect, but that he shall not be able to reproduce without the employer's consent and that the employer may take proceedings for infringement as if he were the proprietor of the Copyright. The Section is, we apprehend, intended to meet the distinction between architectural works of art and most other works of art, that whereas the main object of most artists is to have their work multiplied, the main object of the architect is to prevent the multiplication of any particular design. The Section, however, is one which may lead to many difficulties and misunderstandings. Firstly, it is not clear to us whether the right of the employer to veto reproduction is a right of property which he may assign or whether it is merely a personal right. Then an architect might expressly reserve his Copyright thinking he would have the right of reproduction, and the Court might hold that the employer's right of veto was operative notwithstanding the express reservation. It would undoubtedly make things very much more simple if architects were placed on the same basis as other artists, and they would soon get to know that if they desired to retain Copyright they must expressly reserve it.

There is a strong feeling that the dual ownership of Copyright in a work of architecture would lead to most disastrous complications between the artist and his employer, and that unless the Copyright is vested in the author (as the Royal Institute consider it should properly be, unless otherwise agreed with the employer), it would be more satisfactory that architects should be in the same position as the painters and sculptors.

The following amendment is therefore strongly urged to Section 3 * :—

Page 4, lines 4-14—*delete* from "unless" to end of Subsection (1) (*a*).

5. On the subject of remedies in Section 7, Mr. Macgillivray advises as follows, and the Royal Institute endorse his view :—

> "By Section 7 of the Government Bill the architect is denied any right to an injunction in respect of a building which infringes his Copyright, and he is also denied any summary remedies in respect of such infringement. The architect's sole remedy is therefore an action for damages. Apart from the difficulty of proving actual damage I think an action for damages is not a sufficient remedy. On the other hand, I think it is clear that the architect cannot reasonably claim forfeiture nor I think destruction of a building already completed or in course of construction. The Copyright Committee made the following report on this point :—'There may be difficulties as to remedies. Damages might not be technically provable and destruction not permissible as buildings are usually not the property of the infringer, but penalties might be awarded

* Section 3 (1) of the Draft Bill: "Provided that—

"(*a*) Where the work was ordered by some other person and was made for valuable consideration in pursuance of that order, then, in the absence of any agreement in writing to the contrary, the person by whom the work was ordered shall be the first owner of the Copyright, unless the work is an architectural work of art, or is an artistic work intended for a public place or building, in which case the author shall be the first owner of the Copyright, but shall not be entitled to make, or authorise the making of, reproductions of the work except with the consent of that other person, and that other person shall be entitled to the same remedies in respect of the infringement of the Copyright in the work as if he were the owner of the Copyright."

against anyone who copies or is a party to copying.' The Government Bill expressly deprives the architect of any right to penalties. There is no record of any resolution of the Imperial Copyright Conference on this point, and the unfortunate position of the architect deprived of all remedy except an action for damages has probably been overlooked. There seems to be no reason for not giving the architect a right to an injunction, nor does there seem to be any good reason why the Court should not have some discretion to impose a penalty where damages cannot be readily proved. I suggest the following amendment of the Government Bill * :—

"Page 5, lines 29-39—Section 7 to read as follows :—

"7. Where the Copyright in any work is infringed by the construction of a building or other structure—(1) The Court shall not in any case grant an injunction or interdict to order the demolition of any building or structure or any part thereof nor shall the Court grant an injunction or interdict to restrain the further construction of any building or structure then in course of construction unless in the opinion of the Court it would be just and equitable to all parties interested to restrain any further construction otherwise than in accordance with drawings or plans submitted to and approved by the Court.

"(2) The Court may in lieu of damages award a penalty not exceeding ten per centum of the value of the building or structure complained of.

"(3) (Insert Subsection (2) as it now stands in the Bill down to the words 'not apply')."

6. With reference to Registration, which is understood to be optional, and to operate (*a*) as *prima facie* proof of Copyright (Section 17 (5)), and (*b*) as notice to all persons that there is Copyright in the work thus preventing an infringer from setting up the defence that he acted innocently (Section 17 (6)), the Royal Institute desire to join in the request of other representative bodies for the following amendment of the Section † :—

Page 11, lines 7-8—for "evidence" *substitute* "proof" and for "matters thereby certified" *substitute* "entry and of the facts specified therein."

A copy of the Bill, with the amendments above suggested marked in *red*, is annexed hereto for convenience of reference.

We have the honour to be, Sir, your obedient servants,

(Signed) LEONARD STOKES,
President R.I.B.A.

JOHN W. SIMPSON,
Chairman R.I.B.A. Committee on Copyright.

HENRY T. HARE,
Hon. Secretary R.I.B.A.

IAN MACALISTER,
Secretary R.I.B.A.

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* Section 7 of the Draft Bill: "(1) Where the Copyright in any work is infringed by the construction of a building or other structure, the owner of the Copyright shall not be entitled to obtain an injunction or interdict to restrain the construction of such other building or structure or to order its demolition when constructed."

"(2) Such of the other provisions of this Act as confer on the owner of the Copyright in any work the same remedies against a person having in his possession for sale or dealing with a pirated copy of the work as if it were his property, or as impose summary penalties, shall not apply in any case to which this section applies."

† Section 17 of the Draft Bill: "(5) The registers and indexes established under this section shall be in the prescribed form, and shall at all reasonable times be open to inspection, and any person shall be entitled to take copies of or make extracts from any such register, and the registrar shall, if so required, give a copy of any entry in any such register certified by him to be a true copy, and any such certificate shall be *prima facie* evidence of the matters thereby certified."

8th February 1911.

To the Right Hon. Sydney Buxton, M.P., President of the Board of Trade.

Sir,—With further reference to the letter of the Royal Institute of British Architects dated 16th November 1910, and to the interview on the subject thereof, which you were good enough to arrange for me on 17th November with Sir Llewellyn Smith, Mr. Temple Franks, and others:

We understood at that interview that the Board of Trade while not objecting to the amendments proposed by the Royal Institute in Section 3 (1) (*a*) wished that the matter might be reconsidered from the point of view of the interest of the architectural profession before it was decided to abandon the privilege the Section as drafted is intended to confer.

This matter has been the subject of the most anxious and careful consideration by the Committee of the Royal Institute and their adviser, Mr. Macgillivray; but, in view of the complications and difficulties which the proposal would involve in actual working, my Committee is unanimous in respectfully requesting you to sanction the deletion in Section 3 (1) (*a*) set out in our letter of 16th November above referred to.

We understand, however, that the Authors' Society have suggested a solution of the difficulty with regard to the ownership of Copyright before payment by deleting the words "for valuable consideration" in line 41, page 3, and adding after the word "order" in line 1, page 4, the words "and paid for." This we entirely approve and beg to support.

It will, I think, follow logically that the word "first" in line 3, page 4, will also stand to be deleted. As the property will not pass until payment the Architect will retain the Copyright until that time.

Mr. Macgillivray writes as follows on this point:—

> "I think the word 'first' in page 4, line 3, ought to be deleted. This appears to follow from the fact that the employer is not to be proprietor until payment. Until payment the Architect would retain the Copyright. It would vest in him under the first part of the Section. If the employer ultimately paid within a reasonable time the Architect could not in the meantime make reproduction. To do so would be a breach of his contract with the employer. If the employer deferred payment until after the lapse of a reasonable time the Architect could reproduce the work without the consent of the employer. It would be a question for the Court to decide whether payment had or had not been unreasonably delayed."

I venture to thank you on behalf of my profession for the courteous and sympathetic manner in which you have received the suggestions we have made with a view to the greater completeness and perfecting of the Copyright Bill. Should you desire to see me on any of the points we have raised I shall consider it a pleasure to place myself at your disposition on hearing from you.

I have the honour to append hereto a copy of the Bill showing in red the alterations which have been suggested by the Royal Institute, and beg to remain, Sir, your obedient servant,

JOHN W. SIMPSON,
Chairman R.I.B.A. Committee on Copyright.

LINCOLN CATHEDRAL: THE NEW READING.

By John Bilson [*F.*], F.S.A.

The *Notes on the Architectural History of Lincoln Minster from* 1192 *to* 1255, by Mr. Francis Bond and Mr. William Watkins,* which have been recently published in the Journal,† have created a revival of interest in some difficult problems which were keenly discussed some forty years ago. No one can doubt that these questions require further investigation, and no one can fail to appreciate the energy and industry which characterise the authors' plea for their reconsideration. In venturing some remarks on their *Notes*, I desire at the outset to associate myself with this appreciation, all the more because I am compelled to differ from their more important conclusions.

I have spent some time in the cathedral recently in the study of an earlier chapter of its history, the results of which will shortly be published; but these have little bearing on the questions discussed by the authors, except in one rather important particular to be noticed presently. I have consequently been able to spare but little time for the investigation of the questions now under discussion, though I have skimmed the surface of them many times at intervals for several years past. I do not pretend to explain the many puzzling problems which abound in this cathedral, and indeed, so far as they are capable of solution, I think that they will only be solved by that patient questioning of the stones of the structure itself by followers of the method of Professor Willis who can afford sufficient time for this most difficult study. I am inclined to think that the results of such a complete investigation would disprove most of the authors' conclusions which are new, but for myself I cannot pretend to attempt here more than a scrutiny of the evidence upon which their tentative hypothesis is based.

The most important part of the authors' *Notes* is the argument by which they arrive at the conclusions that the original project of St. Hugh's master-of-the-works contemplated no vaults whatever over the eastern transepts, choir, or great transepts, and their aisles, but only wooden ceilings; that no provision was made for vaulting the choir aisles until the building, not only of the aisle walls, but also of the piers, had proceeded for some distance; ‡ that no provision was made for vaulting the main spans of the eastern transepts, choir, and great transepts (if I understand them rightly) until after the fall of the central tower in 1237 (or 1239); § and that all the high vaults over these parts of the church were actually built after this disaster.*

These conclusions are in the main, with minor differences, those which were set forth by Mr. John Henry Parker as the results of observations made in 1872,† which led him to believe that the "choir and the aisles had originally wooden roofs and flat ceilings, like Peterborough"—a conjecture which, as Professor C. H. Moore has said, is "unsupported by evidence, and is contradicted by the character of the entire system."‡ Mr. Parker, like our authors, believed that the lancet-panels above the vaults were blocked clearstory windows. The authors' hypothesis as to the reconstruction which the structure (especially the choir triforium) underwent to prepare it for the high vaults is their own, and goes much beyond Mr. Parker, but, as we shall see presently, the evidence which they advance in support of it vanishes when examined.

The idea that vaulting had no place in the original scheme of St. Hugh's master-of-the-works is, prima facie, extremely improbable, as indeed was pointed out many years ago.§ So far as the vaulting of aisles is concerned, it is found already as part of the Norman system in the choir aisles of Bernay in the second quarter of the eleventh century; it passes, by Jumièges and Saint-Etienne, Caen, to the great Norman churches of England, to the Lincoln of Bishop Remi; in the form of the unribbed groined vault to the late date of St. Bartholomew's, Smithfield, overlapping the ribbed groined vaults of Durham and of the reconstructed bays of the transept of Winchester. It was so deeply rooted as part of the system of the greater churches built in England under Norman influence that not even the English preference for decorative expedients to constructive logic could afford to dispense with it, and I doubt whether any example of any great church in England before St. Hugh's time can be quoted which did dispense with it. So also, with regard to high vaults, it is true that the Norman and Anglo-Norman school frequently adopted a compromise in which the internal elevation had a schematic bay-division by shafts which (as I believe) derived from vaulted construction; but it is also true that, even in England in the second half of the twelfth century, to say nothing of earlier times, high vaults were common enough. The nave of Lincoln itself had been covered with stone vaults after the fire of 1141.||

* Referred to below as "the authors."

† Pp. 33–50 and 84–97 *ante*.

‡ Pp. 38, 39 *ante*.

§ Both dates are given by different chroniclers. See the authorities cited by Precentor Venables in the *Archæological Journal*, xl. 383, *n.* 2.

* P. 97 *ante*.

† *An Introduction to the Study of Gothic Architecture*, 5th ed. (1877), pp. 102 *ff*.

‡ *Development and Character of Gothic Architecture*, 2nd ed. (New York, 1899), p. 204, *n.* 1.

§ By the late Precentor Venables in the *Archæological Journal*, xxxii. 237, and in the *Associated Architectural Societies' Reports*, xii. 192.

|| "Ecclesiam tamen Lincolniensem casuali igne consumptam egregie reparando lapideis fideliter voltis primus involvit." *Giraldi Cambrensis Vita S. Remigii*, Rolls Series, ed. J. F. Dimock, cap. xxii (vii. 33).

The influence of Canterbury on the new Lincoln begun by St. Hugh in 1192, which has been emphasised by Professor Lethaby *, is generally admitted, and it extends to many things which have not yet been noticed in print.† Owing so much, as it does, of its structural system to Canterbury, it is in the highest degree improbable that the church of St. Hugh so widely differed from Canterbury as it must have done if the suggested rejection of high vaults were true.

So much for probabilities. What is the actual evidence for this supposed rejection of vaults at Lincoln? Let us take first the question of the low vaults.

Irregularities of plan are adduced by the authors as an argument against vaults, not only in the choir aisles (p. 38), but also in the transepts (p. 39). The irregularities certainly exist, but they no more point to wooden ceilings than they do to stone vaults. Some of them are merely questions of setting-out, due to such difficulties as harmonising the external and internal bay spacings. Other irregularities are due to a cause which does not seem to have been pointed out as applicable to Lincoln. It is here that the recently acquired knowledge of the plan of the eleventh-century cathedral, which I hope to publish shortly, has an important bearing on the problems of the later church, for these irregularities are clearly due simply to the conditions under which the work was carried out. St. Hugh's apse and eastern transepts were entirely to the east of, and clear of, the eleventh-century choir, and, when the aisles of this earlier choir had been taken down, the walls of the new choir aisles could have been built (and doubtless were) before the choir itself was demolished,‡ for the choir would certainly be retained for use as long as practicable. So again much of the great transept arms could well have been built before the earlier transepts were taken down. Such conditions of building would naturally result in discrepancies of setting-out which would have to be adjusted in fixing the position of piers when the intervening building had been removed. It is, I believe, to this cause that some of the irregularities of the Lincoln plan must be attributed, but in any case they have nothing to do with the question of wood ceiling or stone vault. And any attempt to fix the precise order of the work begun by St. Hugh must take into account the existence of the eleventh-century church on the site.

The principal argument in favour of the theory that the aisles and chapels of the eastern transepts and choir were originally intended to have wooden ceilings, and not stone vaults, is found by the authors, as it was by Mr. Parker, in the double wall-arcade on the inside of the outer walls. They refer * to the special investigation of this and other questions made by Sir G. Gilbert Scott and Mr. J. L. Pearson in 1874. The conclusion of these two architects on this point was that "the two systems of wall-arcades, although distinct, and although their arrangement is so irregular that they present quite a medley of perplexities, still form part of one and the same original design."† After stating that "the separation between the two planes of decoration does not rise higher than, or even quite reach to, the string-course beneath the window-sills," they go on to say that "if the outer arcade were a subsequent addition it would disarrange the setting-out of the responds and piers, which is not the case." Unless this last argument be disposed of, their conclusion must, I think, stand, and I venture to suggest that it can only be disposed of by an analysis of the setting-out on a plan to a sufficiently large scale, and by showing on such a plan that, if the outer arcade be everywhere eliminated, the setting-out is consistent without it. A study of the best plan available‡ leads me to believe that it will be impossible to show a coherent setting-out without the outer arcade.§ However this may be, the reasons given by the authors are not sufficient to establish their conclusion. Surely it is scarcely accurate to say that the outer arcade "was only added where the walls were thin; where the walls were thick, it was not added—*e.g.* on the west side of the end bay of the north choir transept;" || for in the western chapels of the eastern transept, the north wall of the northern and the south wall of the southern, which have the double arcade, are thicker than the wall instanced, except where the circular staircases occur; and the north wall of the north-east transept itself, and the south wall of the south-east transept, both of which have the double arcade, have a thickness of some 4 feet exclusive of the outer arcade. Again, the authors, assuming 21 feet 6 inches as the square on which the setting-out of the choir is based, say that if a "square of 21 feet 6 inches be set out on either side" (of the centres of the choir piers), "it will be found not to end in the centre of the present aisle walls, but in the centre of the aisle walls as they would be were the present trefoiled arcading removed."¶ Now as the thickness of this latter is only about

* P. 238 *ante*.

† I do not share Mr. Bond's opinion that the choir of Lincoln "is to be classed with the Gothic of the North of England school" (p. 303 *ante*), but this is a question of general architectural history which I need not discuss here.

‡ It is even possible that something of the lower part of the new choir aisle walls might have been built before the earlier choir aisle walls were taken down.

* P. 34 *ante*.

† *Archæological Journal*, xxxii. 233. *Associated Architectural Societies' Reports*, xii. 189. *Archæologia*, xlvii. 46.

‡ The plan, now in the possession of the Society of Antiquaries, made by Mr. E. J. Willson, F.S.A., in the 'thirties of the last century. It is drawn to a scale of 16 feet to one inch, very finely executed, and, so far as I have been able to test it, remarkably accurate.

§ See, for example, the east end of the arcade on the south wall of the south-east transept.

|| P. 38 *ante*. ¶ *Ibid.*

9 inches, there is a difference of only some 4½ inches between the centre of the wall with and without this outer arcade. Their inference therefore will only be justified if the premisses are accurate within very narrow limits. But they are not accurate. The width of the choir, from centre to centre of the first pair of piers west of the eastern crossing, which have been less altered than the other piers, is 43 feet 10 inches. The width of the north aisle, from the centre of pier to the centre of the aisle wall, supposing the outer arcade were removed, is, as I have measured it, 21 feet 10 inches, and of the south aisle to the corresponding points 21 feet 6½ inches; to the centre of the wall including the outer arcade, the widths would be for the north aisle 21 feet 5½ inches, and for the south aisle 21 feet 2½ inches. If these measurements are correct,* there is nothing in them to justify the authors' inference. Again, the authors say that the vaulting-shafts of the choir aisles do not centre with the main buttresses,† and Mr. Watkins' plan ‡ shows them considerably out of centre. This again is inaccurate. The vaulting-shafts, both of the north and south choir aisles, centre with the buttresses to within 1 inch, or at most 1½ inches--a negligible difference.§ Moreover, if the vaulting-shafts had been added one would naturally suppose that they would have been placed centrally between the window jambs on either side of them ; but, both in the north and south aisles, the centre of buttress and the centre of vaulting-shaft alike are some inches nearer to the window jamb on the west than to that on the east. Even if the vaulting-shafts were an afterthought, as the authors state,‖ this would not necessarily prove that no vault was contemplated, for it may have been intended to corbel out the vault-supports from the wall in a fashion which was common enough in England. That low vaults were intended from the first is, however, definitely proved by the shafts in the north-east and north-west angles of the north wall of the north-east transept, where the bases of these shafts are quite obviously of one build with the walls ; moreover, the base in the north-west angle is also of one build with the double arcade on one side of it and the single arcade on the other. If this northern bay of the north-east transept was planned for a low vault from the first, it is impossible to imagine that the choir aisles were to be only wood-ceiled. But, say the authors, the intermediate buttresses of the choir aisles are not bonded into the walls, as they would be if they were part of the original work.* It is admitted on all hands that these minor buttresses of the choir aisles are an afterthought, but this again is no argument against a vault. It might be an argument that a vault of this particular kind (quinquepartite) was not originally intended, but only a quadripartite vault like the actual vaults of the eastern and western bays of each choir aisle. Even this, however, is not certain, for in the western chapel of each eastern transept the intermediate transverse rib of the vault on the west side has no minor buttress on the outside of it. In any case, it is certain that the minor buttresses were an addition made during the course of the construction. On both sides (north and south choir aisles) I believe that the masonry proves that both the major and minor buttresses were built with the aisle walls from the level of the string-course or abacus immediately above the springing of the aisle window-arches up to the level of the string-course above the aisle windows, and that the dotted lines at this point on Mr. Watkins' fig. 13 † are not justified by the facts.

With regard to the piers of the great arcades of the choir, the authors suggest that they were planned originally for two shafts only, one to the east and one to the west ; that the building of the piers " had proceeded for some distance before it was determined to vault the aisles " ; and that then " an additional shaft had to be added to it " (the pier) " to carry the transverse and diagonal ribs of the aisle vault."‡ This is emphatically contradicted by the plan of the piers themselves. Fig. 1 is the plan of the piers on the north and south sides immediately west of the eastern crossing,§ which have been less altered than the others. The octagonal stone pier, with its alternate sides hollowed out, has obviously been planned for *four* shafts, not two, which would make the plan meaningless. That the shaft next the aisle is original is conclusively proved by the southern of these two piers, the only one where any considerable part of the base is visible. Here both the base and sub-base, which have never been disturbed, are each in single stones so far as they are now visible, *i.e.* between the points marked A and B on fig. 1. The choir piers, therefore, were planned for vaulted aisles. That the aisle vaults are contemporary with the arches of the great arcades is proved by a com-

* I had already measured the aisle widths for a plan unconnected with this discussion. The width of the choir was measured for me by Mr. Henry J. Davis, the master-mason of the cathedral, whose kind assistance I take this opportunity of gratefully acknowledging ; for not only has he helped me to take some difficult measurements, but he has very kindly taken for me some supplementary dimensions, and has also tested the accuracy of others which I had already taken.

† P. 39 *ante*. ‡ Fig. 1, p. 35 *ante*.

§ This refers to the vaulting-shaft in each aisle opposite the middle pier in the length of the choir, and to the main buttress on the outside of each. As Mr. Willson's plan shows the vaulting-shafts to centre with the buttresses, I asked Mr. Davis to measure them for me, which he kindly did, with the results stated above.

‖ P. 38 *ante*.

* P. 39 *ante*.

† P. 305 *ante*. ‡ P. 38 *ante*.

§ The shafts next the choir itself, the lower lengths of which were removed for the choir stalls, are alternately cylindrical and hollow-sided hexagons, the latter being the plan of the shaft on the particular pier here drawn (indicated by a dotted circle on my fig. 1).

parison of their profiles,* but I take it that this is admitted by the authors, for they speak of the vaults of the aisles of the choir and of the chapels of the choir transepts as being "undoubtedly of St. Hugh's time."†

It seems to me therefore to be absolutely certain that these aisles and chapels were never intended to be wood-ceiled, but that they were planned from the first for stone vaults (as Sir G. G. Scott and Mr. Pearson concluded), and that the actual low vaults were built as part of the original work in the normal way.

I come now to the question of the high vaults, on which the authors' views appear to me to be just as mistaken as they are on the low vaults.

Before examining the evidence, however, it may be well to clear the ground by some remarks on the probable course of the works. Beyond the fact of their commencement in 1192, we have no definite

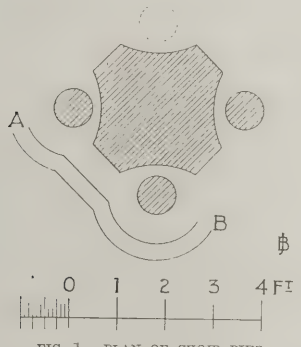


FIG. 1.—PLAN OF CHOIR PIER.

evidence whatever to indicate how far the works had advanced when St. Hugh died in 1200. The current opinion that his work extended as far as the break in the design of the aisle wall-arcade on the east side of the great transept has really nothing to justify it. The death of a bishop does not necessarily mark any particular change in architectural treatment. Even if the death or removal of the first master-of-the-works is indicated by this change in the wall-arcades of the transept aisles—which again is not certain—it is by no means safe to assume, without other evidence, that when the aisle walls had reached these points all the work eastward of them had already been carried up. It is conceivable, for example, that the building of the aisle walls might have reached these points even before the eleventh-century choir had been taken down. On this question I do not wish to offer any opinion, but merely to suggest a possibility which, I think, must be taken into account in working out the precise chronology of the different parts of the church. Whether there be anything in it or not, we may fairly conclude that the precise order of the work would be dictated by the conditions of use of the church and by the practical exigencies of building. The plan and the general scheme would, of course, be laid down from the first, but the details of the expression would be those of the time of their execution, and not necessarily those of 1192, when the building was begun. It seems to me to be necessary to emphasise this point, because the authors several times speak as if the alternative to their hypothesis must necessarily assume that what we see is of 1192. For instance, they say that the type of the choir vault is impossible for 1192,* that the flying buttresses are too advanced for 1192,† and so on; and in his last communication Mr. Bond speaks of the clearstory of the choir as being set-out in 1192.‡ It is desirable to avoid a confusion of the real issue, and, as Mr. John Codd has already pointed out,§ it is by no means certain that the clearstory stage of the choir had been reached before St. Hugh's death. With regard to the abutments for the high vaults, in the ordinary course of things the buttresses on the back of the main walls of the triforium and clearstory would, of course, be built with the walls, but the abutting arches beneath the triforium roof would only be turned when the main walls had been carried up some height; the flying buttresses, and the tops of the main buttresses from which they spring, would only be built when the vault was built, *i.e.* after the high roof had been finished; and there may, indeed, have been some pause before the high vaults themselves were actually built. If we are agreed that this would be the normal order of things, let us turn again to the conclusions of Sir G. G. Scott and Mr. Pearson: "We came to the conclusion that the cross-arches, between vaulting and roofs of aisles, were prepared for and intended from the first, but not erected till somewhat later, and then of a reduced thickness. We also agreed that the flying buttresses and the upper parts of buttresses connected with them are subsequent additions."‖ There is nothing in these conclusions which is inconsistent with the idea that high vaults were intended from the first, and that the buttress-system was carried out substantially as intended from the first. Indeed, one of the minor difficulties of the authors' hypothesis is that, strongly influenced from Canterbury as Lincoln is in its plan and structural system, one of the features of the latter which shows Canterbury influence most strongly—the abutment of the high vaults—could (according to their view) only have been thought of at Lincoln nearly half a century after the plan was laid down.

So much for general considerations. Let us see what the building itself has to tell us.

The authors' hypothesis of a wood-ceiled choir is

* Especially those of the transverse ribs and of the inner order of the arcades.

† P. 39 *ante*. I am not sure that this dating does not go beyond what has actually been *proved* up to the present.

* P. 39 *ante*. † P. 42 *ante*. ‡ P. 426 *ante*.
§ P. 381 *ante*. ‖ *Archæologia*, xlvii. 46.

contradicted from the very floor upwards. The main piers (fig. 1) were, as we have seen, planned from the first with at least four shafts, one of which was a vaulting-shaft to receive the springing of the high vault. To imagine, as the authors do,* that this pier had originally no shaft next to the choir itself, is to imagine that the mason, having hollowed out one side of his octagon for a shaft, put no shaft into it. Referring to the remains of the plinths and bases of these shafts which still exist below the floor of the stalls, the authors say that they "do not form part of the rubble wall on which St. Hugh's piers rest; it has been cut into to receive them."† I do not understand exactly what this last observation means, for the only plinth which I have been able to see ‡ is built upon masonry which seems to have been grouted on the surface, so that it is difficult to see how the plinth is set. However, the authors go on: "It follows that the rubble wall being of St. Hugh's time, the vaulting shafts are later."§ But the foundation at this point is not St. Hugh's; it is the wall of the eleventh-century choir, to which was added a wide extension into the aisle to receive the actual piers of the great arcades. The north face of this added foundation in the north aisle was bared during the excavations of July 1909.

Further evidence that the shafts which receive the springings of the actual high vaults are part of the original scheme is afforded by the main piers on the west side of the eastern transepts, those nearest to the eastern crossing on each side, both of which originally stood free at the angles of the choir aisle and the chapel on the west side of each transept. Here again the symmetrical plan of the piers and their shafting proves that the shafts next the transepts themselves are original, and an examination of their bases shows that they have never been altered. Indeed, if I am not mistaken, the base of the pier on the south side (at the angle of the boys' vestry) is in a single stone.

The authors' tentative hypothesis of a reconstruction of the triforium after the fall of the central tower in 1237 (or 1239) is based on the idea that the little arched openings and recesses above the floors of the clearstory passages (for which it will be convenient to retain the name of "pigeon-holes" which has been given to them in this discussion) are really the arched heads of the original triforium openings. The authors tell us that the idea of such an extraordinary and drastic change, "an amazing thing," seemed to them for a long time to be "wildly improbable," until they were compelled by the facts to admit it. I propose to show that the facts contradict the idea in the most decisive manner possible.

The improbability of the restoration shown in Mr. Watkins' fig. 5 (p. 44) has already been pointed out both by Professor Lethaby * and by Mr. John Codd,† and on this point it is unnecessary for me to say more than to associate myself with what they have so well said. As Professor Lethaby writes, the central support of the whole theory is the existence of the "pigeon-holes," but, before examining these in some detail, I may remark that in my view the suggested analogy with the nave of Ripon may be dismissed at once. If we accept Sir G. G. Scott's restoration of the design of this nave,‡ what we see is an alternating arcade above a solid wall-base, something entirely different from a triforium arcade of lancet openings over a great arcade, with a wider opening over each pier, such as the authors suggest for Lincoln.

Notice in the first place the irregular disposition of these "pigeon-holes." Not only, as Sir Charles Nicholson has already remarked, § do they not centre with the clearstory windows, but there are some curious irregularities in their width and spacing which are so significant in themselves as to deserve further notice.

Beginning with those in the eastern transepts, fig. 2 ‖ is an outline plan of each transept, on which I have drawn in elevation the "pigeon-holes" in their precise position, prolonging them downwards by dotted lines to illustrate the idea of triforium openings advocated by the authors. On the east side of the north-east transept there is a "pigeon-hole" in each of the two northernmost half-bays, and trace of another in the next half-bay to the south, and the "pigeon-holes" here are 2 feet 9 inches and 2 feet 9½ inches wide. On the west side of this transept there are also three "pigeon-holes," and part of a fourth, one of them behind the main abutment of the vault (where there is not one on the east side); but here they are from 3 feet 9 inches to 3 feet 10 inches wide, and the wall-spaces between their springings measure 1 foot 5½ inches and 4 feet 5½ inches respectively, as against the 7 feet odd on the east side. Fig. 2 shows that there is a similar want of correspondence in the positions of the "pigeon-holes" on the two sides of the south-east transept.¶ On the east side the three remaining are 2 feet 9 inches wide,** one of them behind the minor abutment of the vault, but not one behind the main abutment. On the west side there is a wider one, 3 feet 10 inches wide, behind the main abutment; the narrower ones are about 2 feet 9 inches wide, and the wall-spaces

* P. 38 *ante*. † *Ibid*.

‡ To the first pier east of the great crossing, on the north side of the choir

§ P. 38 *ante*.

* P. 238 *ante*. † P. 209 *ante*.

‡ Fig. 12, p. 92 *ante*. § P. 379 *ante*.

‖ On the plan of the south-east transept in fig. 2, the divisions of the half-bays are indicated by the letters A, B, C, D, E on the west side, and by A', B', C' on the east side. The same piers are indicated by the same letters on fig. 4, i, ii, and on fig. 5.

¶ These are shown in detail on fig. 4, i and ii.

** It is worth notice that each of these three arches has a keystone, whereas all the other arches have the usual vertical joint at the apex.

between their springings vary from 1 foot 9¾ inches to 2 feet 5½ inches. This drawing is quite sufficient in itself to negative the hypothesis that these arched recesses and openings are the arched heads of original triforium openings.

The general disposition of the "pigeon-holes" in the choir has been described by the authors, but here also there are some curious irregularities of width.* For instance, in the second bay from the great crossing on the south side the three smaller ones are each 2 feet 9 inches wide; on the opposite (north) side of the same bay the two side ones of the three are much the same width, but the middle one of the three is 4 feet 3½ inches wide. Of those illustrated in detail on fig. 4, iii (in the third bay from the great crossing on the north side, and on either side of it), the narrower ones vary from 2 feet 5½ inches to 2 feet 9½ inches, and the two wider ones are 3 feet 9¾ inches (westernmost) and 4 feet 5 inches (easternmost) wide, respectively; the wall-spaces between the springings vary in width from 1 foot 7 inches to 2 feet 5 inches.

Leaving for the moment the question of the "pigeon-holes" on the east side of the great transepts, I turn to another difficulty presented by the suggested reconstruction of the choir triforium. The authors suggest that the existing triforium of the choir, and presumably those of the eastern transepts also, were rebuilt as far as possible out of the old materials arising from the supposed original triforium arcade.* There is a little difficulty about this suggestion in the slight difference of design of the existing triforium arcades described by Precentor Venables.† There is also a mason's difficulty against the suggested re-use of the archmoulds which anyone who compares their figs. 5 and 6‡ will appreciate; the arches of the "pigeon-holes" generally are struck with a radius of something not far from 4 feet, while the arches of the present triforium are of three different radii. But the difficulty to which I wish especially to draw attention is seen in the western bay next the great crossing, the north side of which is illustrated by fig. 3.§ We have here work which was undeniably rebuilt after the fall of the tower in 1237 (or 1239).‖ In this bay, the two arches and their sub-arches, and the central and western shafts which support them, were obviously then rebuilt. But, according to the authors, the triforium eastward (including the eastern jamb of this western bay) was reconstructed at the same time out of the old materials arising from the original triforium arcade, as shown in Mr. Watkins' fig. 5. The inference is, I suppose, that the old materials became exhausted just at the

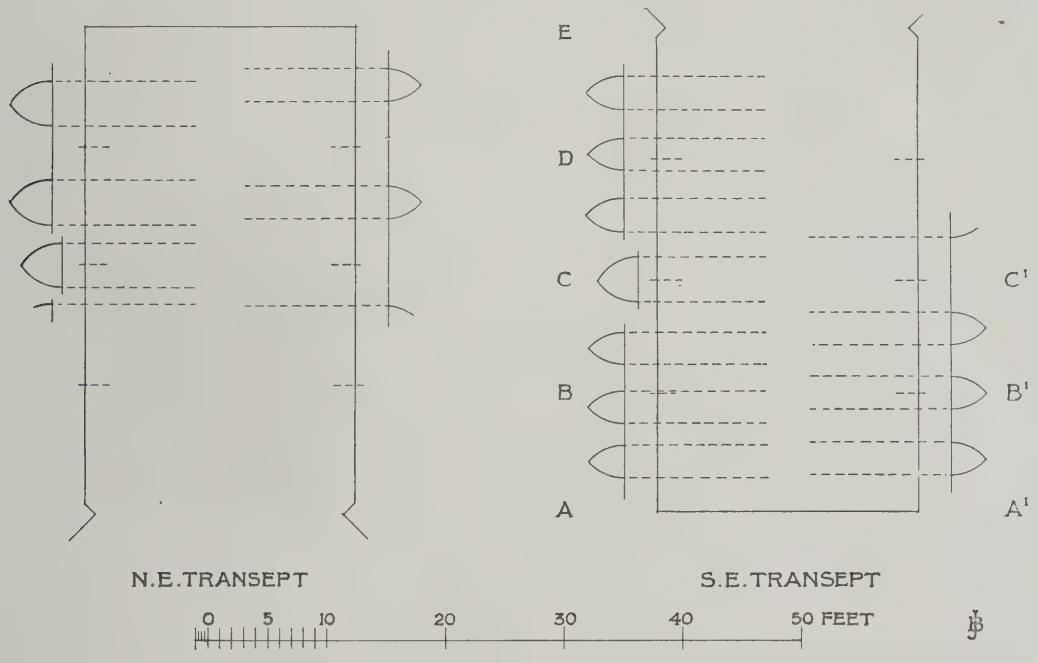


FIG. 2.—OUTLINE PLAN OF EASTERN TRANSEPTS, SHOWING POSITIONS OF ARCHED OPENINGS AND RECESSES IN CLEARSTORIES.

* These are not noticed by the authors in their description on p. 46 *ante*.

* P. 48 *ante*. † *Archæological Journal*, xl. 183–4.

‡ Pp. 44 and 45 *ante*.

§ I have to thank Mr. S. Smith, of the Minster Book Shop, Steephill, Lincoln, for his kind permission to reproduce this photograph. I cordially agree with the authors in their appreciation of the excellence of Mr. Smith's photographs of the cathedral.

‖ Notice especially the different character of the sculpture of the capitals.

precise point to which we should naturally expect the reconstruction necessitated by the fall of the tower to extend. The coincidence would, indeed, be remarkable.*

Turning now to the " pigeon-holes " on the east side of the great transepts, north and south,† and without pausing to discuss again such minor difficulties as the re-use of old material throughout these triforiums, we notice that there is one " pigeon-hole " in each half-bay.‡ On the authors' hypothesis, we must assume therefore that the triforium of each half-bay consisted of a single tall lancet

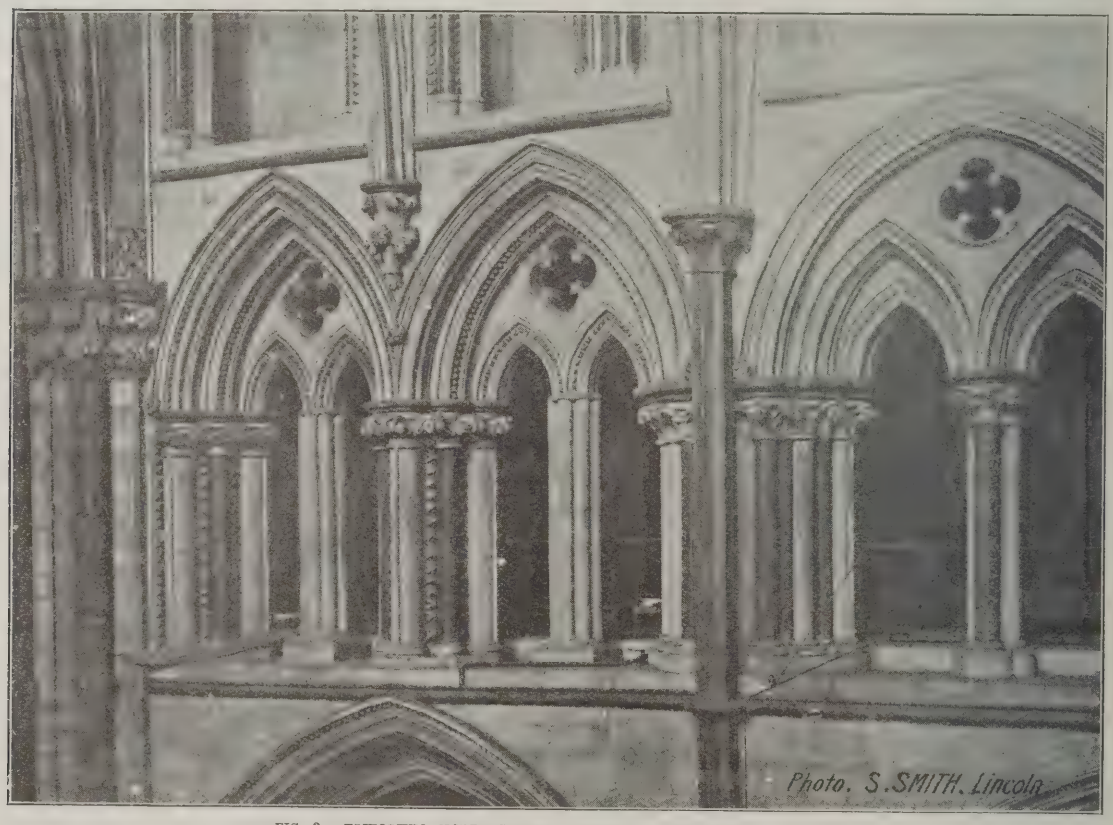


FIG. 3.—TRIFORIUM, NORTH SIDE OF CHOIR, BAY NEXT GREAT CROSSING.

opening. This seems to me to be quite as improbable as the suggested original arrangement of the choir triforium. But there is another very serious difficulty. The string-course below the present clearstory is continued at the same level around both sides of the great transepts, north and south, and across the north end of the north transept below the great rose. On the authors' hypothesis, the original level of the clearstory string on the east sides of the transepts must have been at least 4 feet above the present level.* The assumption that the level of the clearstory strings on the west sides and north and south ends was dropped to this extent seems to me to be incredible. Or are we to assume that the other sides of the great transepts have been reconstructed in the same fashion ? The authors, indeed, suggest that changes were made in the great transepts after the fall of the central tower which

* The authors' suggestion that the design of the existing triforium of the choir was borrowed from that of the nave (p. 50 *ante*) seems to me to be decisively contradicted by the character of the two works. Anyone who cannot compare them on the spot can easily form his own opinion on this point by obtaining a set of a dozen postcard photographs of the triforiums from Mr. S. Smith.

† There is a good section of the north transept, by Mr. James R. Wigfull, in the *Architectural Association Sketch Book*, 3rd series, vol. i. pl. 43.

‡ In his last letter (p. 306 *ante*) Mr. Watkins states as " another proof that these arches were not, and never were, intended for relieving arches " " that they were omitted from the end bays of the central transepts from the very first, for the simple reason that these bays were not completed until after it was decided to vault the church, and the lancet arcading of the triforium was therefore not required, nor was it ever built there." I do not understand this. Mr. Watkins can scarcely be referring to the bay on either side of the great crossing, for I have a measured sketch which Mr. Davis made for me which shows an arched recess in each half of these bays.

* This is probably understating the difference, for Mr. Watkins' fig. 5 (p. 44 *ante*) seems to indicate a difference of some 5½ feet between the present level and the suggested original level of the clearstory string in the choir.

must have been even more drastic than those which their hypothesis involves for the choir. The suggestion that the main arcade piers of the great transepts were rebuilt by Bishop Grostête * is one for which I cannot find the least justification in the actual work, and the suggested alteration of the capitals of some of the piers † is so entirely impossible for the capitals of the main arcade piers on the east side of the north and south great transepts that I can only imagine that the authors must be referring to some capitals which I have not been able to identify.

Returning now to the "pigeon-holes" in the choir, we notice that these are really of two kinds: arched openings and recesses (fig. 4, iii). The three narrower ones in each bay are openings arched through the thickness of the wall (1 foot 9 inches). The wider ones, behind the springings of the vault, are arched recesses, about 1 foot 4½ inches in depth. The authors say that these were originally openings through the wall, like the others. ‡ If so, there would be indications of the blocking on the back of the wall, for the buttresses here are considerably narrower than the arched recesses. No such indications, nor any patching, can be detected. The inference is, therefore, that these were always recesses only, not openings through the wall. I am compelled also to differ entirely from the authors on another question of fact with regard to the masonry of the openings. They say that "the masonry on either side of the 'pigeon-holes' is quite different from that below and superior to it. The line of demarcation occurs sharply at the foot of the 'pigeon-holes'; above all is St. Hugh's work (*sic*), below all is of later date down to the triforium floor." § It would not be remarkable if a line did show at the floor-level of the clearstory passage, but I have examined the masonry carefully more than once (the last time on a bright day), and I can confidently assert that there is no such difference in its character above and below this level.

The masonry of the clearstory passages affords another strong proof against the authors' hypothesis of a reconstructed triforium. The transverse section of the choir in its supposed original state (fig. 3, p. 40 *ante*) shows the floor of the clearstory passage some 5½ feet above its present level. If the floor had really been removed and reconstructed at a lower level, as this reconstruction theory involves, the masonry of the inner face of the outer wall of the clearstory must have shown some indications of the alteration. However, nothing of the kind is to be seen.

A final and absolutely decisive proof is afforded by these arched recesses and openings themselves. The outline || elevation of those on each side of the south-east transept is shown in fig. 4, i and ii, which also illustrates (iii) those in one bay on the north side of the choir, the third bay from the great crossing. The authors state that "the apexes of all the four 'pigeon-holes'" (in the choir bays) "are at the same level." * This is not only a mistake of fact, but it is a mistake which is absolutely fatal to their hypothesis. On the west side of the south-east transept (fig. 4, ii), the apex of the arched recess beneath the abutment C is about 11 inches below the apexes of the arched openings on either side, and the springing line of its arch-curve is about 15 inches below that of the narrower arches. In the bay of the choir illustrated on fig. 4, iii, the apex of the western recess is about 6 inches lower than those of the narrow openings, and its springing-line is about 10 inches lower; the apex of the eastern recess is practically at the same level as those of the narrow openings, but its springing-line is about 17 inches lower. These differences of height, especially as regards the springing-line of the arches, present a serious difficulty in the way of such a restoration as is shown in Mr. Watkins' fig. 5,† but the reason of the differences is far more serious. Why were the arched recesses behind the vault springings constructed at a lower level than the openings between them? On the east side of the south-east transept (fig. 4, i), all three arches are at the same height, because there is a sufficient headway of 6 feet 6 inches and more between the floor of the passage and what the authors describe as "bonding blocks which tie the springers of the vault to the back wall." ‡ On the west side of this transept (fig. 4, ii), the passage through the minor piers B and D was also sufficiently high (about 6 feet 9 inches), but the lintel over the passage through the major pier C is 1 foot 9 inches lower, and the floor of the passage had to be stepped down to give headway under this lintel. It is the same in the clearstory of the choir (fig. 4, iii), as indeed the authors have noticed. § But what they have very strangely failed to notice is that this stepping-down of the passage, conditioned as they truly say by the abutment of the vault, involved also the lower level of the arched recesses, the position of which was therefore determined by the very vault the existence of which they are supposed to disprove.

With the disappearance of this hypothesis of the reconstruction of the triforium disappears also the idea that the abutment of the vault is a later addition. The buttresses at the back of the triforium

* Pp. 46 and 95 *ante*. † P. 46 *ante*.
‡ *Ibid*. § *Ibid*.
|| Outline only in the sense that the jointing of the masonry is not shown.

* P. 46 *ante*. † P. 44 *ante*.
‡ P. 46 *ante*. This is not an exact description of them, for, as my fig. 5 shows, the clearstory wall should rather be regarded as a wall 4 feet 6 inches in thickness, slightly recessed on the outside by the arcade, deeply recessed on the inside by the arches in front of the windows, and pierced by the low clearstory passage. The mechanical construction of the clearstory of the choir is the same, except, of course, that it is modified by the different system of vault.
§ P. 46 *ante*.

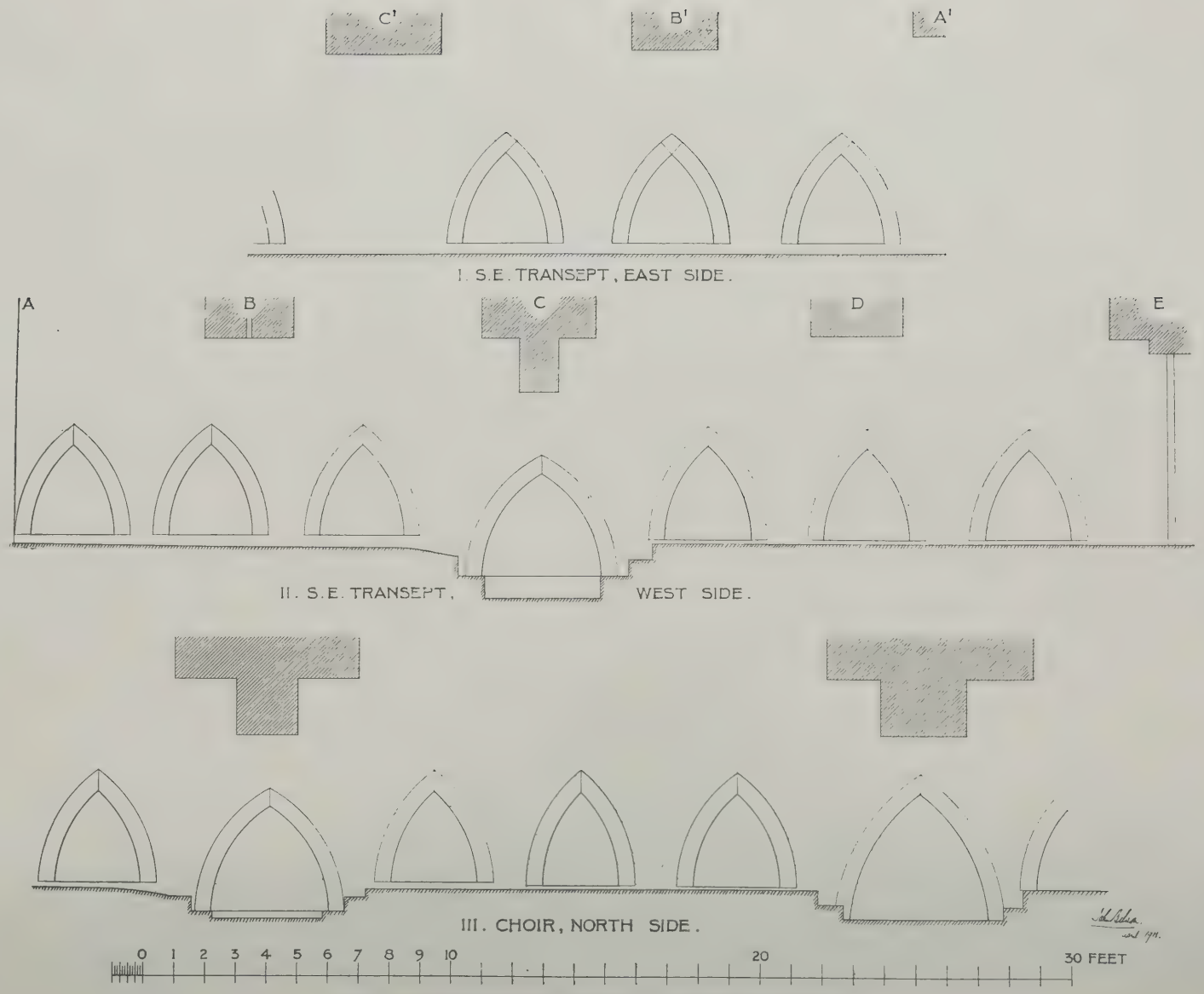


FIG 4.—ELEVATIONS OF ARCHED OPENINGS AND RECESSES IN CLEARSTORIES.

wall are quite certainly of the same build as the triforium wall itself, and the abutting arches beneath the triforium roof would be built when the wall had been carried sufficiently high to require them.

It remains now to notice the "panels," or recesses, with sharply pointed arches, on the inside of the clearstory walls above the springings of the vault.* These do not occur on either side of the north-east transept, nor on the east side of the south-east transept, but they are to be seen on the west side of the south-east transept and on both sides of the choir. They are interpreted by the authors, as they were by Mr. Parker, as blocked clearstory windows. It is unfortunate that it does not seem to have occurred either to Mr. Parker or to the authors to make a measured drawing of the walls in which these recesses are found. However, before dealing with the facts which contradict their hypothesis, it will be convenient to examine first the evidence adduced by the authors in its support.

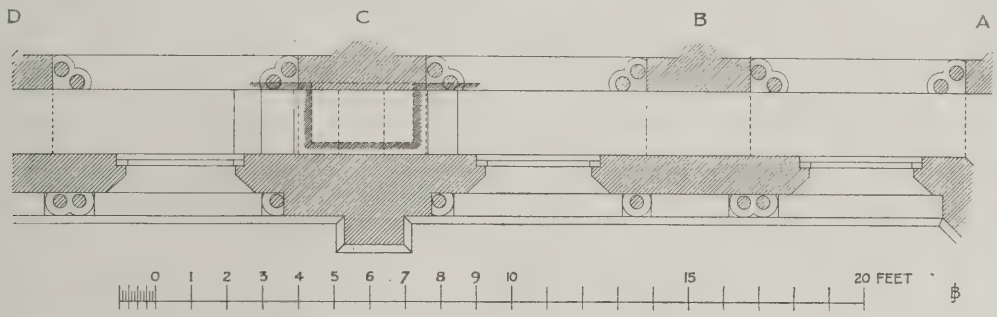


FIG. 5. - PLAN OF CLEARSTORY OF SOUTH-EAST TRANSEPT, WEST SIDE.

The authors believe that the evidence of the external masonry of the clearstories outside these recesses proves that they were originally windows. However, if we look at the outside of the clearstory on the west side of the south-east transept, at the piers marked B and D on figs. 2 and 5, where these recesses occur on the inside over the springings of the minor transverse ribs of the sexpartite vault, it is easy to see that there is not the slightest trace of blocked windows, that the masonry has certainly never been disturbed, and that the external buttress opposite C is part of the original construction. If, too, windows had ever existed at these points, the supposed later introduction of the buttress system would not have necessitated their being blocked, for there are no flying buttresses against these piers. However, the authors rely rather on the masonry of the south clearstory of the choir.† Here the masonry of the parts in question has in some cases quite evidently been patched. The wall at the back of the arcade is generally built with two courses of wall-stones to one course of window jamb, and instances of this are also to be seen in the early masonry elsewhere. The patching is most marked on the third pier east of the great transept, but here it has not the character which indicates the blocking of a window; it looks much more like mere patching by way of repair, probably of modern date, and this is borne out by the nature of the stone used. Certainly the two arches of the arcade above the head of the flying buttress * do not show the least indication of ever having been reset. On the north clearstory of the choir, the character of the masonry in some cases clearly proves that the buttresses on the wall immediately under the heads of the flying buttresses were built with the clearstory wall itself. On the first pier west of the eastern transept, the third course above the sill is higher than usual (1 foot 6½ inches), and this course runs through the buttress, the arcade panels, and both jambs of the window on either side. The theory of the blocked window is not supported anywhere, in my opinion, by the character of the external masonry.

With regard to the small ventilating openings in the spandrels above the external arcade,† the authors mention that in the choir "they are continuous, and many are actually blocked by the vault. Evidently the nave was meant to be vaulted; the choir was not." ‡ If so, why are the "ventilators" there at all? Their only possible use was to light or aërate the space between the vault and the roof, and if no vault was intended when they were built, they must have opened into the choir itself. In passing, it may be noted that these little openings do not appear to have been prepared for when the arched recesses were built, for in some cases they interrupt the apexes of the latter; though they were formed when the upper part of the wall was built, and are not later insertions.

Let us now examine the clearstory walls on the inside, above the vault. In the north-east tran-

* See p. 48 *ante*. † Pp. 48–49, and 302 *ante*.

* See fig. 4, p. 41 *ante*. † *Ibid*.
‡ P. 43 *ante*.

sept, both the east and west walls are faced with rubble on the inside above the vault, which proves that, when they were built, the vault was prepared for. In the south-east transept, the inner face of the east wall is partly of rubble and partly of ashlar. The inner face of the west wall, and those of the choir, in which the recesses occur, are of ashlar. The recess on the south side of the choir which I have measured (fig. 6) is 3 feet 8 inches in width and 1 foot 5½ inches in depth; the jambs are square, without any chamfer or moulding, and the ashlar facing shows that there has never been any arcade in front of them. It is impossible that plain square-edged openings of this kind could ever have been intended to be seen from the church. As the authors state,* its apex is practically at the same level as those of the clearstory windows and arcade, but (what they have omitted to notice) the springing-line of the arch is 1 foot 11½ inches below the springing of the arches of the windows and arcade. This proves that these recesses can never have formed part of the same composition as the windows and external arcade.

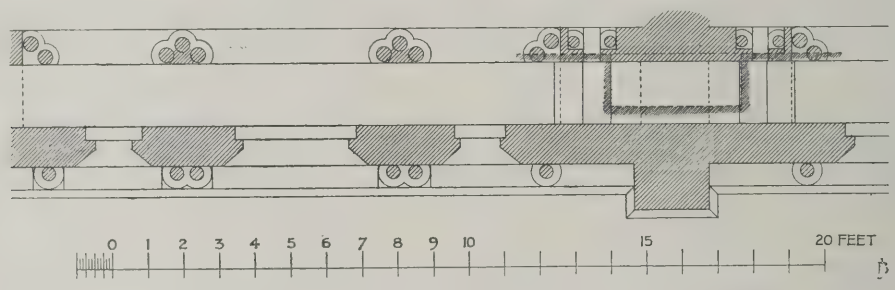


FIG. 6.—PLAN OF CHOIR CLEARSTORY, SOUTH SIDE, THIRD BAY FROM EASTERN CROSSING.

A glance at the plan of the clearstory on the west side of the south-east transept (fig. 5) is sufficient to show that it "spells" vault. The spacing of the clearstory inner arcade, with the wider pier of 3 feet 7 inches behind the major transverse rib at C, and the narrower pier of 2 feet 11 inches behind the minor transverse rib at B, show that the vault governed the setting-out. The external buttress opposite C, which is certainly part of the original wall of the clearstory, is placed out of the centre of the pier, because its position was fixed by the position of the buttress at the angle of the aisles from which the flying buttress had to spring, and with which the clearstory buttress centres exactly.

However, as with the recesses and openings below, so in this case too it is the recesses themselves that furnish absolutely decisive contradiction of the view which they have been supposed to prove. Two of these recesses are shown on the accompanying plans,† one on the west side of the south-east transept at C (fig. 5),* and one on the south side of the choir, at the second pier from the eastern crossing (fig. 6). They are both placed in walls the faces of which are set back to the extent of about 9 inches from the faces of the walls below the vault. It is the same in the north-east transept (where there are no recesses), for its clear internal width at the triforium stage measures 22 feet 9 inches, and its clear width between the tops of the walls over the vault is 24 feet. In other words, the whole internal face of the clearstory wall above the vault, in which these recesses are found, is set back *on the top of the wall-rib of the vault.*

It is unnecessary to comment on this final proof, but there is one point to which I should like to refer. The authors say that "the clearstory wall has been largely rebuilt,"† and they also say that "internally, what we see from the pavement, other than the vault, is largely St. Hugh's work."‡ I do not understand what they suggest as to the precise character of the alterations in the clearstory, for the side arches of the internal arcade (fig. 6, p. 45 *ante*) are obviously conditioned by the vault; and the absolutely different character of the structure of the clearstory shown in fig. 5 (p. 44 *ante*) from that now existing § would involve the supposition of changes as drastic and amazing as anything else that the authors' hypothesis suggests.

With regard to the real purpose of the arched openings and recesses above the clearstory passage, it should be observed that, although they do not exactly centre with the windows, where there are three clearstory windows in each bay (choir) there are three openings below, and where there is one clearstory window in each half-bay (transepts) there is one opening below. Professor Lethaby, with his usual insight, explains the recesses above the vault springings as a device to lighten the structure,‖ and I think that there can be no

* P. 48 *ante*.

† On figs. 5 and 6 the positions of the recesses are indicated by the dotted lines and darker hatching. The other dotted lines across the passages show the lintels, and the strong lines indicate the steps in the floors of the passages.

* There are also recesses at the piers B and D which are not shown on fig. 5.

† P. 49 *ante*. ‡ P. 50 *ante*. § See above, p. 471, note ‡.

‖ P. 238 *ante*.

doubt that this is also the true explanation of the recesses and openings below. And it was not an altogether irrational device. The builders may well have been afraid of the enormous weight which they were putting on the very slight piers of the arcades below (fig. 1); the strong abutment system which they were providing may well have relieved them from any fear of the walls spreading through thrust, and they may well have thought it more important to reduce the weight of the walls than to increase the weight over the haunches of the vaults against thrust. In the western parts of the church, where the conditions were not the same, the device was dropped.

The question of the precise chronology of the high vaults is one which I have not yet studied sufficiently to justify my expressing a definite opinion, but, if I am right in believing that the authors' main theory fails, some of their reasons for attributing all the high vaults to the period following the fall of the tower in 1237 (or 1239) must be abandoned also. In suggesting, as others have suggested before, that the choir vault must be attributed to this period, I am inclined to think that they are right,* but I doubt whether this is true also of the vaults of the eastern transepts and those of the great transepts, which latter Mr. Codd believes to be earlier than either the choir and nave vaults.† The whole question requires thorough investigation, analysis of method of construction, and comparison of profiles. The work which was certainly done around the great crossing after the fall of the tower affords certain data for such an investigation, and it would be an excellent thing if the result of the authors' labours to throw light on these doubtful questions were to be to give us an adequate study of the problem.‡

* I find that among my notes of 1897, I made one that the choir vault probably dated from after the fall of the tower.

† P. 209 *ante*.

‡ I have thought it best to confine myself almost entirely to the main question at issue, but I may perhaps be allowed to add some remarks on Mr. Watkins' suggestion for the plan of St. Hugh's east end (fig. 11, p. 90 *ante*). Neither this nor his fig. 1 (p. 35 *ante*) altogether fit the facts as recorded on Mr. J. J. Smith's plan (*Archæological Journal*, xliv. p. 197, plan ii.; *The Builder*, lii. 756). The remains found indicated that the central chapel (K on Mr. Watkins' fig. 1) was polygonal, not circular, and the circular plan does not fit what was found of the smaller chapel next to it (see detail at D on Mr. Smith's plan). A more important point is that Mr. Watkins' plan does not agree with the remains indicated at AA and L^2 on Mr. Smith's plan, for these suggest a different interpretation of the form of the main apse itself. Mr. Watkins shows canted sides of two bays each and a single eastern bay. A more probable interpretation of what was found would seem to be an apse of three nearly equal sides, and I know from the lines which Mr. Smith showed me on his plan in 1897 (which I scaled and noted at the time) that this was his interpretation. A plan of this kind may well have been adapted from Canterbury, as Professor Lethaby suggests. What seems to me to be certain is that the plan is not "continental" in the sense of being set out on the lines followed in contemporary churches of the great French school, for in these latter it is the lines of the vault abutments which control the whole setting-out. This is not the case either in Mr. Watkins' plan or in any other suggestion which I have seen, including some which I have tried myself. It is hardly too much to say that what is French at Lincoln comes to it through Canterbury.

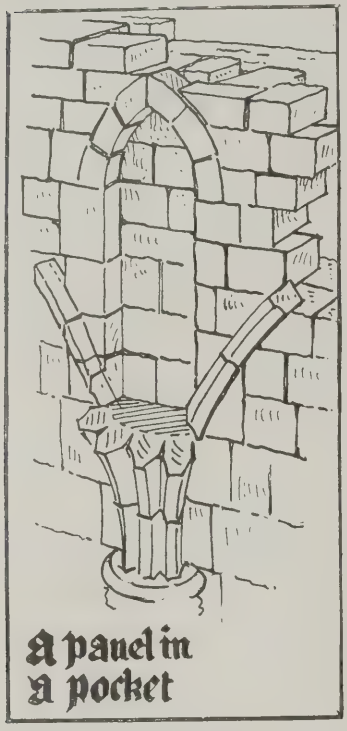
However, whatever may be the precise dates of the actual high vaults, it seems to me to be beyond doubt that Lincoln was planned from the first, and built, as a vaulted church. Its design and structure proclaim this, in an eminent degree for an English church of its date. It would be unhistorical to expect to find at Lincoln the perfectly logical expression of structure which the school of the Ile-de-France achieved in that consummate work, the nave of Amiens, but which even that school had not achieved at the time that Lincoln was begun. It is natural that we should find traces of hesitations, imperfect adjustments of parts, and so on. For instance, in the eastern transepts there are indications that the bases of some of the vaulting shafts under diagonal ribs are not of the same build as those of the adjoining shafts. This does not mean that no diagonal ribs were contemplated, but simply that the necessity for an independent support for the diagonal rib was not realised. But the idea of the vault none the less dominates the whole structure, and, in my view, it is a misreading of the entire system to imagine that it can ever have been conceived as a wood-ceiled church. Whether I shall succeed in convincing my friend, Mr. Bond, that the reconsideration of the question for which he and his co-author pleaded must involve the rejection of their tentative hypothesis, I do not know, but at any rate we shall agree in the hope that this discussion, and the investigations which ought to follow it, may result in a better understanding of the many puzzling problems presented by this, one of the most fascinating of our English churches.

From Sir Charles Nicholson, Bart. [*F.*].—

I should not have trespassed again on the space of the Journal with my guesses as to the meaning of the panels and the pigeon-holes at Lincoln had it not been that Mr. Bond quotes me in the last number as having suggested that the panels facilitated the building of the vault *ribs*. What I meant to convey was that they provided a convenient ledge on which to start building the vault *web* at the level where the ribs interpenetrate, so leaving no room for the web springers unless a ledge of some kind is formed, either by recessing the wall or by corbelling out skewbacks for the web. Mr. Bond asks why the panels run up to nearly the wall-plate level; my answer is that the early vault-builders considered the thrust of their vault-

ing to be concentrated at the springer level and failed to recognise the advantage of reinforcing the wall above this point : hence, not seeing any objection to leaving a panel above the springer, they would naturally not arch it over until the top of the wall was reached where a continuous face was required for the wall plate.

Mr. Widdows again contends that such a clerestory as I showed in fig. 5 in the JOURNAL for April 1 would not stand. I regret that he has failed to recognise the existing choir in my poor drawing, but I must confess my sympathy with his qualms, for the construction of the vault springers in this part of the cathedral, consisting as they do of several courses of masonry insulated from the wall by the clerestory passage, strikes one as being remarkably bold, to say the least of it.



A panel in a pocket

I wonder by the way if, when Mr. Widdows noticed the vault-pocket panel which has lost its apex stone, he also noticed that the arch did not penetrate the clerestory wall to any appreciable extent, which would have been the case if it were a blocked window, for it was this very fact that led me to question the theories propounded by Mr. Bond and Mr. Watkins.

As to the pigeon-holes I do not imagine they would have been made to fit the scaffold poles or baulks supposing they had been meant for the purpose I suggested. It would be an awkward process to insert the butt end of a long pole into a small hole 50 feet above ground, but not so difficult if the hole were a good-sized one. My idea is of a cantilever scaffold passing through the clerestory sill and anchored down to the triforium rafters. Scaffolds built on this principle are now being used in the repairs of the central tower and the chapter-house pinnacles at Wells, the main cantilever timbers passing in one case through the windows and in the other through the open arcading above the chapter-house vault.

The whole of my theories are, of course, pure speculation, and even if one accepted them the age of the actual high vaults remains an undecided question. All I can claim is that the amendment before the house presents a less revolutionary solution of the problem than the original proposal.

CORRESPONDENCE.

Why not Branches of the Institute?

To the Editor JOURNAL R.I.B.A.,—

SIR,—When the second Charter was granted to the Institute in 1887 provision was made for the organisation of branches, and from that date until last year, when the Supplemental Charter and the new By-laws came into force, a reminder of the fact was issued to the members each year upon the balloting-paper for officers and Council. The actual wording of the Charter was as follows :—" Subject to the provisions of this Our Charter Bye-laws shall define regulate and prescribe—. . . (*h*) The relations of the Royal Institute to such branches thereof as may be established within the United Kingdom or India or any Colony or Dependency of the United Kingdom and to other Societies having kindred aims and purposes."

It is clear that when these words were introduced one member of the Council at least possessed the gift of far-sighted statesmanship, having premonition of the time when the Institute, which had hitherto been almost entirely English, should extend, and include within its ranks the architects of all British Dominions and Dependencies, some being so far distant from the centre that a large amount of autonomy would have to be granted to the organisation in each locality. As time has gone on, it is unfortunately to be recorded that several opportunities for forming such branches have been allowed to pass by. Existing bodies in South Africa and Australia have been taken into " alliance " with the Institute, but " branches " in these great British Dominions have not been formed.

The difference between a society in alliance with the Institute and a definite branch is considerable. An independent society has not the authority of a branch ; it can, and generally does, admit members to its ranks upon entirely different qualifications from those necessary for entry to the parent body ; it can organise in classes which are even antagonistic in principle ; the connection with the parent is of the slenderest. In the case of Colonial societies there is not even the possibility of representation upon the Institute Council. A branch, as established for a great Dependency or Dominion, might have the local societies in alliance with it, when they would bear the same relation to the branch that the " Allied Societies " bear to the Institute in England. The branch would elect its own officers in exactly the same way as the election is conducted in England, and it would be controlled by the same

Charter, and mainly, if not wholly, by the same By-laws; for proper provision never seems to have been made anywhere for formulating branch By-laws which should differ in any way from the general By-laws, nor for the branches to have any voice in the determination of the By-laws of the principal body. These are oversights, but not beyond rectification. Every member of a branch would necessarily become a member of the Institute itself, and would have voting power accordingly, but owing to his residence at a distance he would be unable to exercise it, and probably it would be far better to so arrange matters that members of branches voted only in those branches, giving the President of each branch an *ex-officio* position as Vice-President of the Institute, which would entitle him to be nominated for the Presidency if under any peculiar circumstances such a course seemed to be desirable. It would also entitle him to be present at Council meetings if he ever came to England, and always to be provided with the Agenda Papers and be kept informed of what was transpiring, when his views could be expressed confidentially by letter.

Branches would be separate organisations in all other respects. Each would possess the right of holding examinations for admission for Associateship, and of subsequently electing to Fellowship, and at the outset it would probably be wise to open the class of Licentiates for a short period, as has lately been done in England, as a means of preliminary admission to the Institute of such qualified men as would otherwise be ineligible for admission under the Charter. Examinations held by the branches, entitling to Associateship of the branch and consequently of the parent body, would carry a large amount of local weight, while the present somewhat unsatisfactory system of Colonial examinations controlled from England would cease. The result would be that the examinations would more entirely meet local needs than they do now, and the membership of the Institute would increase enormously. It is not to be expected that men who intend to practise in the Colonies will submit themselves in any great number to an examination test which is almost wholly European for the sake of securing the right to place letters after their name which at present have little significance in the Colonies. Establish Colonial branches, and the position would at once be changed and greatly improved.

That some such reorganisation (or perhaps it would be better to call it an extension of the present organisation) is becoming imperative must be clear to those who are watching the present trend of architectural politics here in England. The Institute is engaged upon the preparation of a Registration Bill, this being a natural corollary to all that has been done during the last few years. This Bill, although its details are not yet determined, is to be so framed as to give the right to practise architecture in England to all who have passed the Associates' Examination or who shall do so in the future. What, under such a provision, is to be the position of gentlemen who pass the examination in the Colonies? Is it to be possible for one who fails in England to go over, say, to South Africa, and pass there as a Colonial candidate, and then to return to England and practise here under English conditions? Is, in fact, a Colonially qualified Associate to be placed in the same position as one who has been trained and examined here? It may be that architectural history is the same whether it is taught abroad or in England, and that the theory of construction differs but little all the world over, but in planning, practice, construction, materials, and even sanitation and specification-writing there are vast differences. It does not necessarily follow that the English trained man is competent to practise in Canada or that the Australian trained man is to be trusted with work here. Yet, as things are at present, if all practising architects are to belong to the Institute, and *vice versa*, it would be impossible to deny the privilege of English practice to anyone who had passed the examination whether it were held in a Dependency or at home. The organisation of Colonial branches would obviate this necessity entirely, for there would be no difficulty in so framing the Bill as to admit to English practice only those who had passed the English examination, and yet to leave the way open for branches in the Dependencies to grant a similar qualification for practice within those Dependencies under similar Bills, such as are sure to be introduced there and come into force soon after the English Bill is passed.

The Institute, although nominally the Royal Institute of British Architects throughout the world, is practically at present an Institute of the architects of Great Britain alone. It possesses a certain number of Colonial members, but almost all of these have obtained their qualifications in England and have subsequently gone to the Colonies to practise. The actual expansion of the Institute in our Colonial possessions has been slight. This is evidently not what was in the mind of those who drafted the Charter of 1887. By this time, if branches had been established in Canada, India, Australia, South Africa, and New Zealand, each would probably be now a great organisation with Allied Societies of its own, and the membership of the Institute and its power for good would have been vastly greater than it is. Possibly the time was not then ripe for this to have been done, but it is certainly ripening now, and the sooner a move is made in this direction the better it will be for architects and architecture generally.—Yours, &c.,

G. A. T. Middleton [*A.*].

9 Conduit Street, London, W., *6th May* 1911.

CHRONICLE.

The Annual Elections: New Nominations.

The following nominations have been made by members in accordance with By-law 33 :—

As Vice-Presidents.

Dawber : Edward Guy [*F.*]
Nominated by Edwin T. Hall [*F.*], Ernest Newton [*F.*], Arnold Thornely [*F.*], H. H. Statham [*F.*], Edwin L. Lutyens [*F.*], Percy S. Worthington [*F.*], Wm. Flockhart [*F.*].

Pite : Professor Beresford [*F.*].
Nominated by Ernest George [*F.*], Rowland Plumbe [*F.*], Charles Spooner [*F.*], S. B. K. Caulfield [*F.*], R. Phené Spiers [*F.*], Sir A. Brumwell Thomas [*F.*], Geo. H. Fellowes Prynne [*F.*].

As Members of Council.

Downing : H. P. Burke [*F.*].
Nominated by Alexander Graham [*F.*], John Slater [*F.*], R. Phené Spiers [*F.*], Sir Aston Webb, C.B., R.A. [*F.*], Wm. Flockhart [*F.*], John W. Simpson [*F.*], William A. Pite [*F.*].

Eccles : Thomas Edgar [*F.*].
Nominated by Alfred W. S. Cross [*F.*], Edwin L. Lutyens [*F.*], Edwin T. Hall [*F.*], Henry T. Hare [*F.*], Arnold Thornely [*F.*], E. Guy Dawber [*F.*], Maurice B. Adams [*F.*].

Fletcher : Banister Flight [*F.*].
Nominated by Rowland Plumbe [*F.*], Sir A. Brumwell Thomas [*F.*], Howard Chatfeild Clarke [*F.*], Edward B. I'Anson [*F.*], J. Douglass Mathews [*F.*], Frederic R. Farrow [*F.*], H. Phillips Fletcher [*F.*].

Nield : George Ernest [*F.*].
Nominated by Maurice B. Adams [*F.*], George Hubbard [*F.*], G. A. T. Middleton [*A.*], H. V. Lanchester [*F.*], H. Hardwicke Langston [*A.*], John W. Simpson [*F.*], W. A. Forsyth [*F.*].

Ogden : Paul [*F.*].
Nominated by Percy S. Worthington [*F.*], John H. Woodhouse [*F.*], Alfred E. Corbett [*A.*], Edgar Wood [*A.*], J. W. Beaumont [*F.*], W. Cecil Hardisty [*F.*], Isaac Taylor [*F.*].

Perks : Sydney, F.S.A. [*F.*].
Nominated by George Hubbard [*F.*], Max. Clarke [*F.*], Matt. Garbutt [*F.*], John Slater [*F.*], Edw. Greenop [*A.*], W. Henry White [*F.*], Wm. H. Atkin-Berry [*F.*].

Sadgrove : Edwin James [*F.*].
Nominated by Richard Willock [*F.*], Percy B. Tubbs [*F.*], E. C. P. Monson [*F.*], George Hubbard [*F.*], Alfred W. S. Cross [*F.*], G. A. T. Middleton [*A.*], H. V. Milnes Emerson [*A.*],

Snell : Alfred Saxon [*F.*].
Nominated by Edwin T. Hall [*F.*], Wm. Woodward [*F.*], M. Collins [*F.*], James S. Gibson [*F.*], Wm. H. Atkin-Berry [*F.*], Thomas Batterbury [*F.*], J. Osborne Smith [*F.*], S. Flint Clarkson [*F.*], W. T. Walker [*F.*], Lionel U. Grace [*A.*], E. Godfrey Page [*A.*], Edw. Greenop [*A.*].

Tubbs : Percy Burnell [*F.*].
Nominated by Leonard Stokes [*President*], Max. Clarke [*F.*], H. Inigo Triggs [*A.*], George Hubbard [*F.*], Alfred W. S. Cross [*F.*], A. Needham Wilson [*A.*], Henry T. Hare [*F.*].

White : William Henry [*F.*].
Nominated by Alfred W. S. Cross [*F.*], George Hubbard [*F.*], Albert W. Moore [*F.*], K. Gammell [*A.*], H. A. Satchell [*F.*], Max. Clarke [*F.*], Ernest Flint [*F.*], Wm. H. Atkin-Berry [*F.*].

Wilson : John Bennie [*F.*].
Nominated by John Jas. Burnet LL.D. [*F.*], T. L. Watson [*F.*], Charles Rennie Mackintosh [*F.*], John Thomson [*F.*], W. G. Rowan [*F.*], George Bell [*F.*], Alexander Skirving [*F.*], Horatio K. Bromhead [*F.*], David Barclay [*F.*], John Rogerson [*A.*].

Woodward : William [*F.*].
Nominated by James S. Gibson [*F.*], H. L. Florence [*F.*], Rowland Plumbe [*F.*], Percivall Currey [*F.*], W. Hilton Nash [*F.*], Henry Lovegrove [*A.*], Lewis Solomon [*A.*], A. Saxon Snell [*F.*].

As Associate-Members of Council.

Gammell : Kensington [*A.*].
Nominated by Albert W. Moore [*F.*], Max Clarke [*F.*], George Hubbard [*F.*], R. Stephen Ayling [*F.*], W. Henry White [*F.*], H. A. Satchell [*F.*], Alfred W. S. Cross [*F.*], Ernest Flint [*F.*].

Middleton : George Alexander Thomas [*A.*].
1. *Nominated by* H. Lionel Thornely [*F.*], Arthur Southcombe Parker [*F.*], Leighton Fouracre [*A.*], B. Priestley Shires [*F.*], Charles King [*F.*], Herbert W. Wills [*A.*], John Anderson [.], William Kaula [*A.*], Robert W. Carden [*A.*].
2. *Nominated by* F. R. N. Haswell [*F.*], R. Burns Dick [*F.*], Jas. T. Cackett [*F.*], Joseph Oswald [*F.*], Arthur B. Plummer [*F.*], J. H. Morton [*F.*], Andrew K. Tasker [*A.*], Geo. R. Smith [*A.*], R. H. Morton [*A.*].
3. *Nominated by* Edwin J. Sadgrove [*F.*], Richard Willock [*F.*], Percy B. Tubbs [*F.*], E. C. P. Monson [*F.*], H. V. Milnes Emerson [*A.*], W. Arthur Rigg [*A.*], M. E. Stahl [*A.*].
4. *Nominated by* Edgar G. C. Down [*A.*], Harry Teather [*F.*], Cholton James [*F.*], David Morgan [*F.*], Ivor P. Jones [*A.*], Cecil Wilson [*F.*], John H. Phillips [*F.*].
5. *Nominated by* Alfred W. S. Cross [*F.*], George Hubbard [*F.*], Geo. Ernest Nield [*F.*], W. Henry White [*F.*], James Ransome [*F.*], Maurice B. Adams [*F.*], Wm. Woodward [*F.*], Charles Woodward [*A.*].
6. *Nominated by* W. Milburn [*F.*], Thomas R. Milburn [*F.*], Geo. T. Brown [*F.*], John Hall [*F.*], Edward Reid [*A.*], W. Milburn, jun. [*A.*], Hugh T. D. Hedley [*F.*].
7. *Nominated by* Allen T. Hussell [*F.*], Arnold Thorne [*F.*], Joseph Pilling [*F.*], John Ormrod [*A.*], P. C. Pilling [*A.*], J. Simpson [*F.*], Harold G. Holt [*A.*].

As Member of the Practice Standing Committee.

Nield : George Ernest [*F.*].
Nominated by Maurice B. Adams [*F.*], George Hubbard [*F.*], G. A. T. Middleton [*A.*], H. V. Lanchester [*F.*], H. Hardwicke Langston [*A.*], John W. Simpson [*F.*], W. A. Forsyth [*F.*].

St. Paul's Bridge.

The Times of the 29th ult. published the following letter, addressed to its Editor, from the President of the Royal Institute :—

9 *Conduit Street, W.*: 28*th April* 1911.

Sir,—In the report which you publish to-day of the proceedings of the House of Commons Committee on the Corporation's Bill it is stated that the Royal Institute of British Architects had presented a petition against the Bill, but that they had not instructed counsel to appear on their behalf.

This is quite true, and I feel that it is perhaps due to the public that they should be informed of the reasons which led the Council of the Royal Institute to come to this decision. As the official representatives of the art of architecture in this country they have from the first regarded it as their duty to call the attention of the Corporation and of the public to the immense architectural possibilities offered by the improvement scheme, and to urge their opinion that the proposals of the Corporation showed a lamentable failure to realise these possibilities.

By letters, by reasoned arguments, and by deputations they have done their utmost to prevent the Corporation from making an irretrievable blunder ; finally, they have petitioned Parliament to refuse the Corporation the power they are seeking to inflict their blunder in a permanent form on the heart of London. With this final step they consider that their duty ceases. The matter is now in the hands of Parliament and the public, and the Royal Institute is not in a position to enter upon a prolonged and costly Parliamentary battle against all the resources of the wealthy Corporation of London.

The views of the Royal Institute and the arguments for and against the Corporation's scheme have been laid before the citizens of London with admirable clearness and fairness by *The Times* and by other newspapers, and the responsibility for any decision that is arrived at must now rest with Parliament and with the people of London as a whole.

I am, Sir, yours faithfully,

Leonard Stokes,
President R.I.B.A.

The Parliamentary consideration of the proposal of the Corporation of London to build St. Paul's Bridge over the Thames was begun on the 27th ult. by the Committee of the House of Commons. The Committee consists of Mr. Mooney (Chairman), Mr. Lane-Fox, Mr. Essex, and Colonel Yate. The following notes are based upon *The Times* report of the proceedings :—

The three main objects of the Bill, Mr. Lloyd, K.C., Counsel for the Corporation, explained, were the alteration of the steps of London Bridge, the reconstruction of Southwark Bridge, and the construction of a new bridge and approaches from Southwark to St. Paul's. The estimated cost was £2,207,883, which would be raised upon the security of the Bridge House Estates. The proposal for the reconstruction of Southwark Bridge was made in conjunction with that for the new bridge, and it was hoped by means of these two schemes to solve to some extent the difficulties that arose from the present congestion of traffic in the City. Southwark Bridge was built in 1811, and became the property of the Corporation of London in 1868 at the price of £218,868. A proposal was submitted to Parliament in 1904 for the rebuilding of the bridge, but, owing to the refusal of the Committee to sanction the raising of the level of Upper Thames Street and of converging streets, the scheme was abandoned. The present scheme did not involve the raising of the level of these streets, but it provided for the improvement of the gradients both of the approaches and of the bridge itself. The reconstructed bridge would have a width of 55 feet, as compared with the 42 feet 6 inches of the existing bridge, and, with the approval of the Port of London Authority, it would be carried on five arches in alignment with the other bridges instead of the present three arches, which were out of alignment.

Coming to the proposed new bridge, Mr. Lloyd said that a scheme for the construction of a bridge between Southwark and St. Paul's had been before the Corporation in one form or another for over half a century. As a result of this half-century's consideration and experience they were convinced that the effect of the bridge which was now proposed must be to give very considerable additional relief to the present traffic congestion. The Royal Commission on London Traffic suggested that such a bridge as was here proposed should be constructed on the western verge of the City boundary, but the Corporation had thought it right to make use of Goswell Road and Aldersgate Street on the north and of the existing roads on the south side of the river. Every effort had been made to carry out the scheme so that it might be worthy of the City of London without doing any unnecessary injury to anybody. The bridge would have a width of 80 feet, of which 50 feet would be roadway; there would be five spans, and the gradient would be 1 in 40. Its construction would afford facilities for tramway communication between the North and the South, and from this point of view the proposals of the Corporation had the approval of the London County Council. It was proposed to take five years for the purchase of the necessary lands, and ten years for the completion of the bridge.

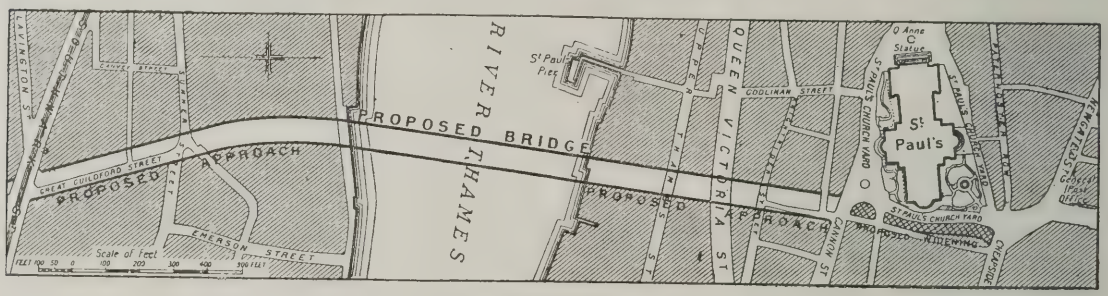
Discussing the opposition to the Corporation's scheme, Mr. Lloyd said that at a very early stage the Royal Institute of British Architects approached the Corporation. The Corporation, recognising the importance and position of the Institute, gave the most careful consideration to their representations and to the alternative proposal which was suggested by at least some members of that body. This alternative suggestion was that, instead of taking the bridge straight across the river from Southwark and up to the eastern end of St. Paul's, it should be carried on the skew, and, cutting diagonally through all the property between the river and the Cathedral, should eventually arrive at the southern transept of St. Paul's. He believed the architects preferred their scheme over that of the Corporation largely because it would secure a very beautiful view of St. Paul's for a good distance along the route. He had no doubt it would, but, on the other hand, the Corporation's proposal would open up a most imposing view of the Cathedral for a considerable distance, and it possessed these additional advantages—that the property which would be affected was, in the main, not of such an important character and that it would provide a direct North and South route. The property between

the river and St. Paul's which would be cut through by the alternative scheme comprised some of the most valuable in the whole district, and it was estimated that the adoption of the proposal would have involved a further expenditure of at least £1,000,000. After the most careful consideration of a proposal coming from so important a body, the Corporation were unable to see their way to diverge from their original scheme, for which they now asked the sanction of Parliament.

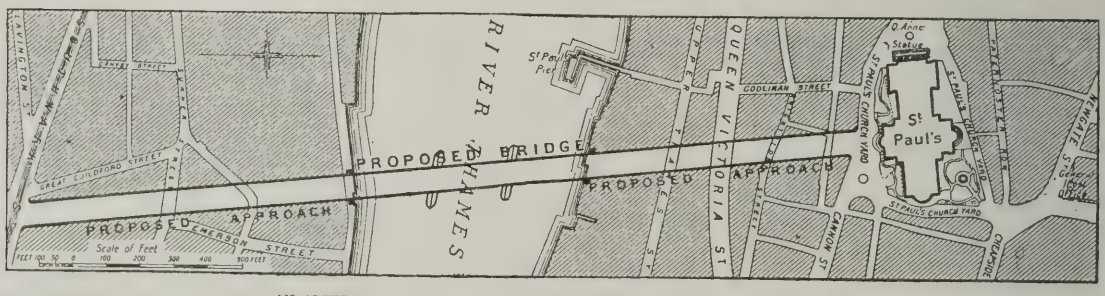
Mr. J. W. Domoney, Chairman of the Bridge House Estates Committee, interviewed by a representative of *The Times*, and explaining the reasons which induced the City Corporation to reject the scheme for the construction of St. Paul's Bridge so that it should lead directly to the south porch of the Cathedral, said that the considerations which weighed with the Corporation were in the main practical, but that at the same time the Corporation did not regard the scheme contained in their Bill as artistically inferior to the alternative proposals which have been made.

Mr. Domoney pointed out that in any event there would be a magnificent view of the dome of St. Paul's from the new bridge, and claimed that there would be an even finer vista from the point at which the northern approach opened out into St. Paul's Churchyard than from the suggested road leading to the south porch. The Corporation scheme includes the demolition of a great deal of property lying between Old Change and the Churchyard, and with this additional space thrown into the roadway the view from the head of the approach will embrace the whole of the east end of the Cathedral as well as the dome and the south porch. In any case the City authorities do not think that the south porch is the most desirable part of the Cathedral to be at the head of a great road; the western steps at the chief entrance are regarded as the obvious objective for a scheme which sought to reveal St. Paul's to the fullest advantage.

On the traffic question, said Mr. Domoney, the City authorities, and the police in particular, are strongly opposed to the alternative scheme. The police hold that right-angle crossings are the safest and quickest. They point to the ease and despatch with which traffic is dealt with at a simple crossing like Ludgate Circus and the danger and difficulty attending the more complex crossings at the junction of Queen Victoria Street and Cannon Street and at the City end of Blackfriars Bridge. It is objected to the alternative scheme that under it cross-traffic would have to be dealt with at two points, and it is held that there would be far less confusion if one operation, as provided by the Bill, was sufficient. Mr. Domoney further explained that the alternative approach would form an awkward acute angle with Cannon Street.



THE CORPORATION'S SCHEME.



AN ALTERNATIVE SCHEME, SUGGESTED BY PROFESSOR BERESFORD PITE [*F.*].

The following statement from Mr. Leonard Stokes in criticism of the Corporation's proposals appeared in *The Times* of the 27th ult.:—

It is to be borne in mind, in the first place, that there is no official alternative scheme to that put forward by the Corporation. There have been certain suggestions advanced by individuals, but no definite scheme has been submitted to the Corporation. The Institute has refrained from doing anything of the kind; it has merely urged the Corporation to take expert advice upon an important architectural work which may involve the making or the marring of London. It is rather unfair, therefore, for advocates of the scheme of the Corporation to claim that the "alternative scheme" has been found to be unsatisfactory.

Mr. Domoney appears to claim that any project to build the bridge opposite the south transept of the

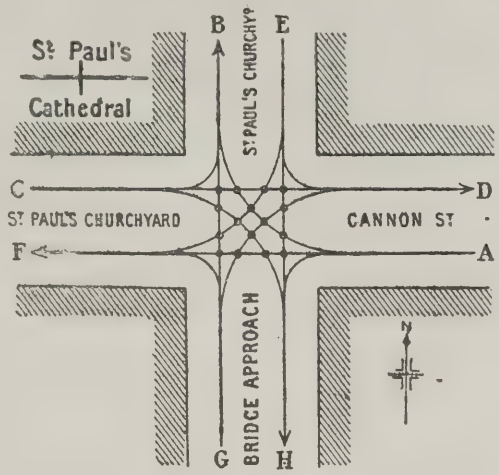
Cathedral is architecturally inferior to the plan of the Corporation. That may be the view of the members of the Corporation, but, so far as I know, no architect, or anybody qualified to express an opinion upon the subject, is in agreement with them. What we complain of is that the Corporation will not take the advice of architects in the matter. Doubtless a picturesque view of the Cathedral might be obtained from the suggested northern approach of the bridge, but the proposals of the Corporation do not, and cannot, give us a distant vista of the Cathedral with the dome dominating the whole.

I maintain that the adoption of the Corporation scheme will not relieve the congestion of traffic on the other bridges. It will add to the traffic. The Corporation are going to encourage a great North to South traffic through the heart of the City, in direct opposition to the recommendation of the Traffic Commission that a new North to South route should be created to the west of Blackfriars Bridge. As for the provision of a connecting link between the northern and southern tramways system, this would be provided equally well by a bridge opposite the south transept. The subway would only need to be slightly extended—perhaps 50 yards—and on the southern side of St. Paul's Churchyard the subway would be further away from the Cathedral than it is to be on the eastern side. Or, if the bridge in the altered position would not do, why not take the trams over Blackfriars Bridge ?

This bridge scheme of the Corporation is an example of the piecemeal way in which things are done in London. A committee of the Corporation recommends the building of a new bridge. Then a committee of the London County Council proposes to carry the trams over it. There is no central governing body to say anything about the matter. No alternative plans, apparently, are prepared and discussed. Yet there may be other ways of solving the problem. It might be possible, for instance, while constructing the bridge opposite the south transept and the dome of the Cathedral, to avoid the necessity of purchasing certain expensive property by having a bifurcated approach—one fork leading to the eastern end of St. Paul's Cathedral (where the subway might begin) and the other ending further westwards. It might even be found possible to begin the approach from the level of Queen Victoria Street, at a point opposite the south transept, and to carry a thoroughfare from that point to the eastern end of St. Paul's Churchyard. I do not advocate these projects ; I mention them merely to illustrate my argument that there may be other alternatives to the Corporation's scheme.

Here is an opportunity for us to think upon a big scale. Let us build a bridge that is worthy of London, even although it may cost us more money than is now available. It would be worth while waiting for a few years, if only we might ensure that so great an opportunity should not be misused.

The Times of the 25th April publishes diagrams (reproduced below) showing how, in the opinion of some opponents of the Corporation's proposals, the converging lines of traffic would proceed if either of the alternative schemes were carried out. The diagrams are adapted from sketches prepared by Mr. John W. Simpson [*F.*] to illustrate a Paper upon the Planning of Cities read by him before the Institute in 1905. In this Paper a problem similar to that presented by the St. Paul's Bridge was incidentally discussed. The diagrams are not drawn to scale.

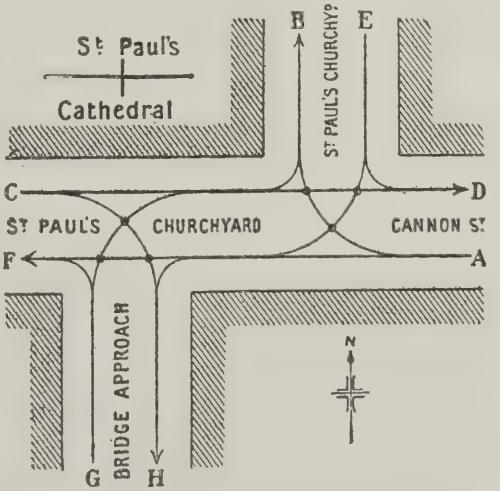


FOUR DIRECTIONS FROM WHICH CARRIAGES MAY ARRIVE : 16 COLLISION POINTS.

Professor Beresford Pite, discussing the traffic question last week, and commenting on the diagrams, said :—

The proposed through crossing from the North to the South will afford the police an opportunity, which they seem to desire, of simply holding up one line of traffic while the other passes. But if the alternative scheme were adopted the dangerous and difficult through crossing would be avoided, the traffic would be more widely distributed, and would have more room to turn in any direction. Not only would time be saved, but the risk of accidents would be diminished.

This is clearly indicated by Mr. Simpson's diagrams. The diversion of the traffic does not merely spread the points of contact ; it actually diminishes them.



FOUR DIRECTIONS FROM WHICH CARRIAGES MAY ARRIVE : SIX COLLISION POINTS.

As Mr. Simpson pointed out, in the case of the through crossing we obtain twelve different routes. They are as

follows :—A B, A F, A H, C B, C D, C H, E D, E H, E F, and G F, G B, G D. That is to say, there are three alternatives for each of the four possible directions, and this gives sixteen collision points. But if the axis be broken, as in the second diagram, there are still twelve routes, but there are only six collision points.

Even if we do not take into consideration the question of the tramways, it seems to me that the advent of a new stream of North and South traffic at the junction of Cheapside and Newgate Street (at the north-east of St. Paul's Churchyard) has not been fully considered. The congestion of traffic at this point is already sufficiently serious to demand relief, and the difficulty would be multiplied if the Corporation's scheme were carried out. Compared with this problem, that of dealing with the traffic in Cannon Street would be relatively unimportant.

Professor Beresford Pite recurs to the subject in the following letter to *The Times* of the 5th inst. :—

It would appear from the passing of the Preamble to the Corporation of London (Bridges) Bill that architectural interests are in some danger of being left to the tender mercies of the police in the planning of thoroughfares for traffic.

It may at once be granted that Sir W. Nott Bower is the greatest living authority on the management of congested traffic in the crooked and narrow arteries of the old heart of the City, but in the design of a new thoroughfare as wide as Westminster Bridge the City Police Commissioner's word need not be the last.

The traffic question in relation to St. Paul's Bridge ought to be dealt with both scientifically and practically. Have the Corporation shown the Committee of the House of Commons a plan with all the traffic lines marked on, so that the collision points and the space wherein to evade them can be considered ?

To students of town planning it appears an axiom that traffic questions solve themselves on architectural lines, but to this London is still blind, as the result of the policeman's improvement plan at Hamilton Place shows plainly enough.

Reference to Mr. John W. Simpson's paper (JOURNAL of the Royal Institute of British Architects, Vol. XII., Third Series, 1905) will supply further useful illustrations on this matter, similar to those which you published on April 25 [see p. 481], and illustrate the importance and value of a scientific study of the problem, on which the late Camillo Sitte, of Vienna, and Dr. Stübben, the celebrated living German authority on town planning, are cited.

The objection to a skew bridge cannot be of much weight on engineering grounds, as Mr. Basil Mott, the Corporation's Engineer, himself prepared a plan for rebuilding Southwark Bridge as a skew bridge, in much the same way as the alternative suggested in *The Times* for St. Paul's. This plan is described as Drawing No. M. 56, in the Report of the Bridge House Estates Committee ordered to be printed April 22, 1909. On æsthetic grounds no serious objection can lie ; the aspect of a skew bridge from the river would be for the navigating bargee and tug-skipper ; from the roadway it would be imperceptible whether the supports are at right angles to the curving banks or not.

The Corporation seem to contemplate the " artistic embellishment " of the bridge after its erection on wrong lines, and to be complacent both about the crooked view of the Cathedral and Sir Christopher Wren's plan.

On this I need only remark, we are painfully aware that architecture may be purchased and spread like jam upon something disagreeable which has to be swallowed ; but this was not Dr. Christopher Wren's prescription.

His lamented plan for the rebuilding of London was made upon the principles now urged against the scheme of the Corporation by the representatives of his art—namely, those of making the plan of a city so as to utilise a grand vista of the Cathedral. No streets southward from the Cathedral offered Wren this possibility, as the descent to the river was steep and short, and both the Cathedral which he designed (which it must not be forgotten was not the St. Paul's that now is, but a very different design) and his city plan were abandoned.

It may not be amiss to cite what Professor Reginald Blomfield, A.R.A., says of Wren's " masterly plan which the King accepted " and which had to be sacrificed through the blindness of the City Authorities :—

" His fine intelligence grasped the full architectural possibilities of vistas of broad straight streets linked together by groups of public buildings, the importance of a commanding site for these buildings, and the absolute necessity of a complete and consecutive scheme to the dignity of a great city."

Can there be any doubt that if Sir Christopher were with us now he would seize the grand opportunity afforded by the erection of the viaduct approach from a great bridge, of noble width, to the porch below the Dome, which is the pride and visual embodiment of London herself ?

The City have an opportunity, and Parliament should insist upon their making use of it, of planning the approach from this bridge so that it shall be worthy both of the Cathedral and of ourselves.

Professor Beresford Pite makes a practical suggestion for the settlement of the controversy. It is important, he says, that the Corporation should carry public opinion with them in a matter which is of great artistic interest, and that they should seek the advice of leading authorities upon the subject. Let them, therefore, withdraw that portion of the Bill relating to the St. Paul's Bridge and agree to the appointment of a consultative committee of public men and experts, in conjunction with whom the whole question might be fully considered.

The consideration of the Corporation's Bill by the Committee of the House of Commons concluded on the 4th inst., and the Bill was reported to the House for third reading.

The Copyright Bill and Architecture.

During the discussion of the Copyright Bill in Committee of the House of Commons on Thursday, 27th ult., Mr. Joynson Hicks moved an amendment designed to exempt architecture from the scope of the Bill. He described the attempt to give copyright in an architectural work of art as copyright run mad, and insisted that it would lead to endless litigation.

The Solicitor-General pointed out that in the

Berlin Convention, which was agreed to by nearly all the great European nations, copyright in architecture was included. Thirteen of the sixteen members of a Departmental Committee had recommended that protection be given to architecture. Copyright in plans already existed.

Mr. Harwood considered the proposal in the Bill impracticable, and protested against a limitation of freedom from which the public gained enormously.

Mr. T. P. O'Connor urged that the work of architects ought not to be denied the protection which was given to other forms of art.

The amendment was defeated by eighteen votes against fifteen.

The attention of members is called to the Report of the Institute Committee on Copyright, and the letters appended thereto addressed to the President of the Board of Trade, printed on pages 458-463 of the present issue.

The Liverpool and Manchester Societies and the Regulations for Competitions.

Attention has been drawn to the fact that no mention has been made in the JOURNAL of the part borne by the Allied Societies of Liverpool and Manchester in bringing about the many desirable changes recently made in the R.I.B.A. Regulations for Architectural Competitions. Owing to the constantly recurring difficulties and vexations in connection with competitions, the Manchester and Liverpool Societies held a Conference at Manchester in October 1908, and agreed upon a joint course of action. It was realised that much effort was being wasted in the endeavour to obtain satisfactory amendment of published conditions, that the R.I.B.A. Regulations then in force were somewhat bewildering to the average promoter, and that it would be better to draw up a model form of conditions that would be easily understood and likely to be accepted by promoters in general. Several meetings were held both at Liverpool and Manchester, and every point connected with architectural competitions was thoroughly debated. Finally, a set of proposals was agreed upon and a proof copy forwarded to the Council of the Institute in London. The Council having intimated that they were themselves proposing to take in hand the revision of the Institute Regulations, the Lancashire Societies agreed that nothing should be done by them independently of the Institute. The matter engaged for several months the consideration of the Institute Competitions Committee, on which had been co-opted representatives of the various Allied Societies. The draft proposals of the Liverpool and Manchester Societies proved of much value, and many of them found place in the document submitted to the General Body in London, and finally adopted as the R.I.B.A. Regulations at the meeting of the 21st November last.

"Palais de Justice" at Athens: International Competition.

The Greek Minister in London sends to the Institute for the information of architects taking part in this competition copies of the Hellenic Government Gazette of the 23rd February last (2nd March N.S.), which announces that competitors are not required to send in with their designs for the building minute specifications and estimates ("*série de prix*," "*analyse de prix*," and "*devis estimatif*"). An unofficial translation of the Conditions of this competition appeared in the JOURNAL for 4th February.

Retiring Members of Council under By-law 34.

The new By-law 34 has now come into operation by which three Ordinary Members and one Associate Member become ineligible to serve again on the Council for two years. The retiring members are Messrs. Paul Waterhouse, J. J. Burnet, LL.D., and Andrew N. Prentice, *Fellows*, and Professor C. H. Reilly, *Associate*.

Annual General Meeting and Special General Meeting, 1st May.—The report of the discussions at these two meetings is held over for the next issue.

MINUTES. XIII.

ANNUAL GENERAL MEETING.

At the Seventy-seventh Annual General Meeting (being the Thirteenth General Meeting of the Session 1910-11), held Monday, 1st May 1911, at 8 p.m., Mr. Alfred W. S. Cross, M.A.Cantab., *Vice-President*, in the Chair; of those present the names of 31 Fellows (including 9 members of the Council), 68 Associates (including 1 member of the Council), and 4 Licentiates entered in the attendance-book—the Minutes of the Business General Meeting held Monday 10th April, having been already printed in the JOURNAL, were taken as read and signed as correct.

The decease was announced of Edward Henry Smales and Albert Edward Tiller, *Licentiates*.

The following Members and Licentiates attending for the first time since their election were formally admitted by the Chairman—viz. Edgar Bunce, Marshall Eyre Walker, Joseph Edward Mundell, *Associates*; Ernest Albert Mann, Frank Norman Reckitt, Alexander George Albert Quibell, *Licentiates*.

The following candidate was elected by show of hands—viz.:—

AS HON. ASSOCIATE.

MOORE: CHARLES H., A.M., Professor of Art, and Director of the Fogg Art Museum of Harvard University (Retired).

The Chairman having formally presented and moved the adoption of the Annual Report for the official year, the motion was seconded by Mr. Henry T. Hare, *Hon. Secretary*.

On the motion of Mr. Herbert Shepherd [*A.*], it was resolved that the Hon. Secretary be requested to write to the President expressing the regrets of members at his absence owing to illness, and the hope that he would be soon recovered and among them again.

During the discussion on the Annual Report, the Chairman accepted the following amendments to the Report on the motion of Mr. Herbert Shepherd :—

Page 76 : Line 1 of paragraph 2 relating to Licentiates : omit the word "provisionally."

Page 76, bottom line : insert after "membership" the words "and Licentiateship."

Page 77 : the first sentence to read : "The details of this scheme and the principles of the Registration Bill were laid before a Special General Meeting on April 10th, and after a long discussion were approved." Insert in the next sentence after the words "Society of Architects" the words "and the Resolution to effect the necessary changes in the By-laws is confirmed by the Royal Institute."

Page 77, paragraph headed "Architectural Copyright," 3rd line : omit the word "Amendment."

In reply to Mr. G. Leonard Elkington [*A.*], the Secretary stated that the proposals relating to the Society of Architects were carried at the Meeting of the 10th April by 61 votes against 39, but that the numbers of the "large majorities" referred to on p. 77 were not counted.

Finally it was

RESOLVED, unanimously, that, subject to the above amendments, the Annual Report of the Council for the official year 1910-11 be adopted.

On the motion of the Chairman a vote of thanks was passed to Messrs. John Hudson [*F.*] and W. H. Burt [*A.*] for their services as Hon. Auditors, and the same members were nominated to serve in that capacity for the ensuing year.

The Annual General Meeting then terminated.

SPECIAL GENERAL MEETING.

At a Special General Meeting summoned by the Council in accordance with the Charter and By-laws, and held Monday, 1st May, at the conclusion of the Annual General Meeting, and similarly constituted, the Minutes of the Special General Meeting held Monday, 10th April [JOURNAL, pp. 439-40], being put for confirmation, and Mr. K. Gammell [*A.*] asking whether the vote confirming the Minutes would also be taken as confirming the Resolutions passed at that Meeting, the Chairman answered that the confirmation of the Minutes implied only that the Minutes were accurately recorded.

Mr. W. R. Davidge [*A.*] having called attention to some discrepancies between the statement printed in the Supplement to the JOURNAL of the 1st April and what was represented to be the same statement set out in the Minutes, headed "General Principles of a Bill for the Registration of Architects," it was resolved after discussion that the Minutes be read, and as a result the following amendments were ordered to be made—viz. :

Omit the two paragraphs following the line "After a suitable preamble."

Clause 3 of the "General Principles" after the word "Licentiates" in the 4th line to read as follows :—"Of the Royal Institute of British Architects or to architectural membership of one of the aforesaid Royal Academies in manner provided by the Royal Charters."

Clause 4 : Alter the date "1912" to "1920."

It was also resolved that the words "by large majorities" at the end of the 5th paragraph on p. 440 be omitted, and that the words "after discussion" be inserted after the words "notice-paper" in the 2nd line of the 8th paragraph.

Mr. W. R. Davidge [*A.*] entered a protest against the use in the first paragraph of the Minutes of the phrase "the future of the Society of Architects," maintaining that the words "the incorporation of the Society of Architects" more accurately described the matter.

On the motion of Mr. George Hubbard, F.S.A. [*F.*], the Minutes as amended were then signed with the approval of the Meeting.

The Chairman, having announced the object of the Meeting, formally moved that the resolution adopting amendments in By-laws 27 and 32 passed at the Meeting of the 10th April be confirmed.

Mr. K. Gammell [*A.*], by permission of the Chairman, read some remarks urging that the resolution be negatived in order that opportunity might be afforded members of discussing the proposals relating to the Society of Architects.

Mr. W. H. Burt [*A.*] moved, and Mr. Gammell seconded, that the Meeting be postponed till that day twelve months, and the motion was supported by Mr. J. Nixon Horsfield [*A.*] and others on the ground that the report of the Meeting which passed the resolutions not being published in the JOURNAL most of the members were in ignorance of what had transpired.

The Secretary explained that, the document under discussion at the last Meeting being private and confidential, and being still under discussion by the Society of Architects, it was not considered right to publish it in a public Journal.

After considerable discussion, the Chairman ruled that the motion for adjournment was out of order, and a number of members, as a formal protest, retired from the Meeting.

It being found, on a count of members, that there was still the quorum necessary under By-law 25 to continue the Meeting, the resolution was put from the Chair, and being seconded by Mr. Henry T. Hare, Hon. Secretary, upon a show of hands, Fellows only voting, it was

RESOLVED, That this Meeting, summoned in accordance with Clause 33 of the Charter, do confirm the resolution passed at the Special General Meeting held on the 10th April 1911—viz. : That the Royal Institute of British Architects, in a Special General Meeting summoned in accordance with the provisions of the Charter and By-laws, hereby resolves that the following amendments to the By-laws be adopted, and that the Council be authorised to obtain for them the approval of His Majesty's Privy Council :—

By-law 27, line 1 : The words "forty-four" to be substituted for the words "forty-two."

By-law 27, line 37 : The following words to be added—"(*f*) Two Fellows or Associates of the Royal Institute as representatives of the former Society of Architects."

By-law 32, line 3 : After the words "Associate Member of Council" the following words to be added : "The representation of the former Society of Architects on the Council of the Royal Institute shall cease on and after the date of the passing into law of a Bill for the Registration of Architects promoted by the Royal Institute."

The proceedings then closed, and the Meeting separated at 11.35 p.m.

Architects' Benevolent Society.—At the Annual General Meeting of this Society held on the 11th April, the chair was taken by Mr. Henry L. Florence, not by the President, Mr. Leonard Stokes, as inaccurately reported in the last issue. Mr. Stokes was unable to be present.

Painted Plaster Relief at the Trocadero by Gerald Moira and F. Lynn Jenkins.

PAINTED RELIEF. By R. Anning Bell.

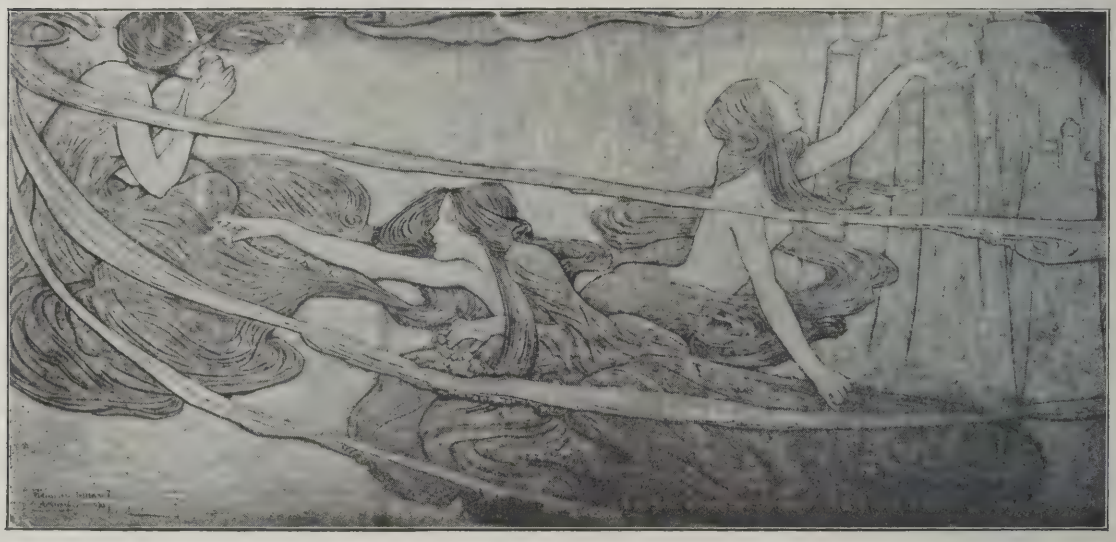
Read before the Royal Institute of British Architects, Monday, 22nd May 1911.

PAINTED relief as a form of decoration sounds perhaps rather a narrow and restricted subject for an evening's discussion. The association of relief with colour at once calls to mind many beautiful methods of decoration which are beyond the limitations of this Paper, but they are so many and so various that it was felt better to confine our attention within narrower bounds, which, after all, contain within their scope examples of decoration so widely apart as the paddle of the merest savage and the frieze of the Parthenon.

Painting applied to relief-work is one of the most obvious and ordinary forms of decoration and is quite familiar to you all; but for various reasons very little work of a good class has been done in recent times. The architect, the sculptor, and the painter have specialised each in his own art in these later centuries and have lost that comprehension of and sympathy with each other's work which characterised them in earlier and happier times, when their object was rather to produce a beautiful piece of work in collaboration than to express each of them his own particular talent apart and aloof from the others. The sculptor thinks that the painter's colour will prevent proper attention to his modelling; the painter is thinking of atmospheric effects all the time, or of values, anyway of realistic imitations of nature of some sort or another, and his mental attitude and training alike render him unlikely to design and carry out satisfactorily a colour treatment which must be subordinate to a general effect designed by another man. This is the position of most painters, though, I hope, not of all. A reaction is undoubtedly setting in, which, in spite of occasional extravagances, must, I think, be welcomed here—a reaction against the over-appreciation of work both in sculpture and in painting which aims only, or at any rate mainly, at giving the illusion of natural effects, and which succeeds in winning the enraptured applause of that rather poor class of mind which can appreciate close imitation of anything with which it is already acquainted but cannot perceive beauty or originality of design or colour in a more abstract form. Also the education of our art-students is now, I think, beginning to be directed by a wider and saner policy, and I hope that soon it will be difficult to find any student who will look with that blank indifference and even contempt on any art other than that which he is studying which characterised many of my own contemporaries. The architect, owing to the difficulty I have just mentioned of finding colleagues with whom he can work harmoniously, has been driven to confine his efforts in the direction of colour to such simple treatments as he can trust to the ordinary artisan, and, as all who are acquainted with the British house-painter are aware, his experiences do not encourage him to attempt anything very unusual or ambitious. These irritating

limitations are likely to discourage him and to make him feel disinclined to undertake more than a general supervision of the colour decoration of his building, and so he entrusts the work to one of the firms of decorators who are always at his elbow and who can be trusted to turn out a not unpleasant if not very original piece of work. These great firms have taken the place of the painter and the sculptor in the older system. They are more pliable and anxious to oblige than the modern painter or sculptor is sometimes found to be, they have shareholders to placate, and altogether they are anxious to make things easy for the architect. It must be admitted, too, that designers and craftsmen of great ability are employed by these firms; but the great objection to them is that they undertake too much for one man to control and therefore lose the distinction given by a dominating and directing artistic personality.

It is possible, however, to find a sculptor and a painter who can work together, and some work, though I cannot hear of as much as I had hoped, has been done in the direction of



PANEL AT THE THROGMORTON RESTAURANT BY GERALD MOIRA AND F. LYNN JENKINS.

painted reliefs. The late Sir Edward Burne-Jones did a few, which were modelled from his designs by Mr. Weekes, and some twelve years ago Papers were read here by Mr. Lanchester and Mr. Lynn Jenkins on coloured-plaster relief-work, that of Mr. Lynn Jenkins being executed in collaboration with Professor Moira. I shall have the pleasure of showing you slides from some of these to-night, as also the very fine panels designed and executed by Mr. Walter Crane. I have also brought a few of my own which I shall ask you to look at. Mr. Jack has also done some very interesting ones, but was not able to find any photographs of them up to the time when this Paper was written, and Mr. H. Wilson has also done some very beautiful work.

I have been trying to show why the treatment of relief by colour, once so universal, has to a great extent dropped out of customary use; and to express my belief in a change for the better in the future. I shall now go on to its value and use as a frequent element in decoration. I do not think that the little work which has been done in modern times is sufficient to show how wide is its range and how varied are the effects to be obtained by it. I shall speak of the sort of work with which I am personally acquainted—figure-work in relief,

gilded or silvered and painted, and executed in fibrous plaster or some form of biscuit or terra-cotta. I shall not say much about the technical side, which is simple and which has been admirably explained by Messrs. Lanchester and Lynn Jenkins before this Institute and has also been described by myself and others in the art and architectural papers. It is sufficient

PANELS AT THE TROCADERO BY GERALD MOIRA AND F. LYNN JENKINS.

to say that the work is modelled in clay, then cast in plaster, which is then gilded and painted, or a mould is made from which the biscuit or terra-cotta is cast: this is then fired and subsequently also gilded and painted.

The work is essentially a colourist's work and the first sketch must be as definite and careful as one for stained glass. The modelling gives the resulting work a carrying power much greater than painting alone can do, and it must be so treated as to leave a distinct edge

to each colour-shape if the colours are strong: this particularly applies to areas which are to be covered with gold or silver. The relief need not be high, in which case the result is more akin, perhaps, to an embossed painting; but it may be so strong that the cast shadows from the higher forms have a prominent share in the composition. When high up, a broad treatment with simple flat planes, with but little modelling properly so called, may be used with good effect; but near the eye I personally prefer to see the modelling quite thorough and searching. Most workers will, I think, agree that the modelling takes up much more time than the colouring, though the latter is the dominant factor in a successful result. Painted relief-work may be fanciful and gay, and it may be severe and sober

PANEL AT THE TROCADERO BY GERALD MOIRA AND F. LYNN JENKINS.

and dignified. Opportunities for work of the latter kind have not been frequent, so that its powers in that direction have been by no means completely demonstrated, and I fear that the associations it brings to mind are rather of the frivolous order. This is probably one reason why it has not secured more attention; but I am sure that its possibilities for serious and architectonic decorative effect in churches or public buildings are as great as those to be obtained from any other method of wall-decoration. It has, too, the advantage of costing less than many of these, and, if desired, by repeating the modelled work and varying the colour treatment a very inexpensive result is obtainable. With proper treatment it should prove very durable; the plaster surface can be hardened, or, still better, the whole may be fired in "biscuit." This is extremely hard and gives quite a good surface for the colour; true, it shrinks a little and has to be put up in comparatively small pieces, but the shrinking is, I

think, of little importance, at any rate in work which is designed to be coloured, and the smaller size of the parts is not, I think, really a disadvantage—it gives a structural look to the work akin to the leading in stained glass. I shall show you a reredos which I executed in this way for Park Church, in Glasgow, and which has a background of quiet blue mosaic—a not unpleasant combination. As to the colouring matter, gold or platinum and the usual artists'-colourman's oil-paints are what I have always employed, and I see no reason why these should

Hospitality. Panel in Skinners' Hall.

Spring.

PAINTED RELIEF BY R. ANNING BELL.

not prove as durable on plaster modelled as on the grounds akin to plaster which are used applied to canvas for the ordinary easel-picture. I shall show you a small relief which has been for ten years over my own door, facing west and continually exposed to all varieties of weather: it is gilded and painted with cobalt-blue and other colours. It has, of course, faded in the strong sunlight—no blue can stand that—but I consider that under the conditions it has stood remarkably well, and, indeed, is rather improved than otherwise.

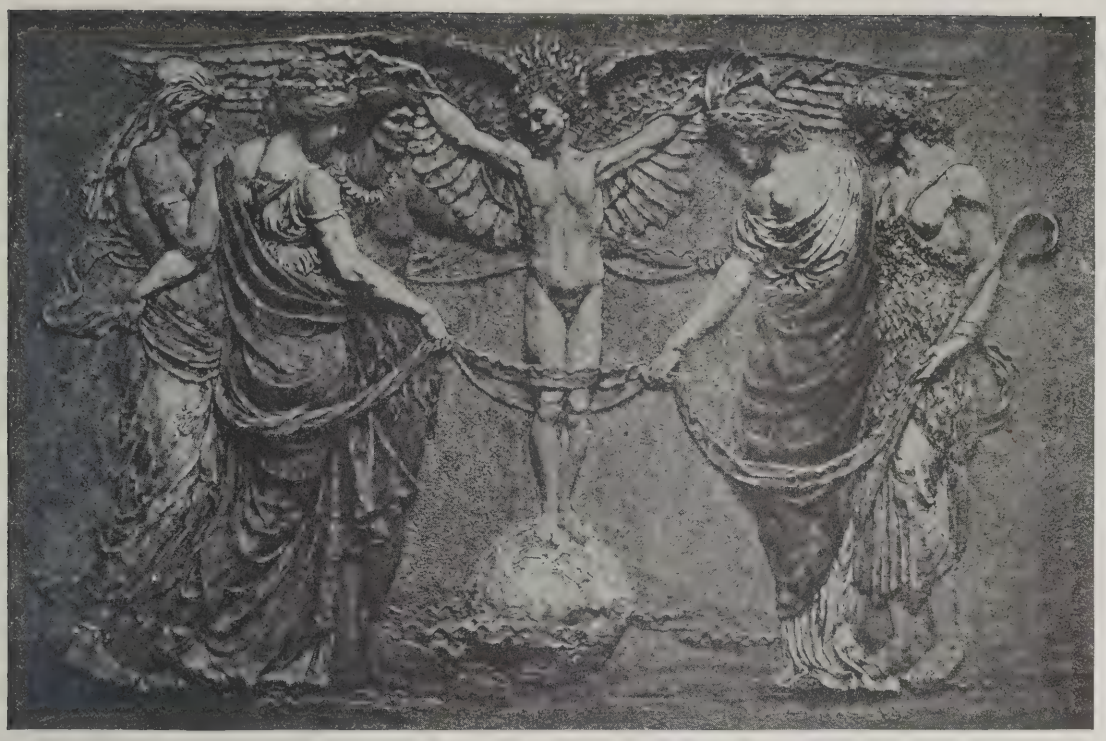
I wish particularly to dwell on and to emphasise the potentialities of this material for grave and rich and distinguished decorative treatment, as I have been reading the report of the

discussion which followed the Papers by Messrs. Lanchester and Lynn Jenkins to which I have before alluded, and I gather from the remarks of the late Mr. Brydon, of Mr. Crace and others that considerable doubt was felt as to whether this method is capable of being used with satisfactory results in any but work designed in the lighter vein.

THE SALOON, COOMBE BANK.

The stamped leather on the walls, plaster ceiling, chimney breast, the smaller frieze panels, and the door panels designed, modelled, and painted by Walter Crane.

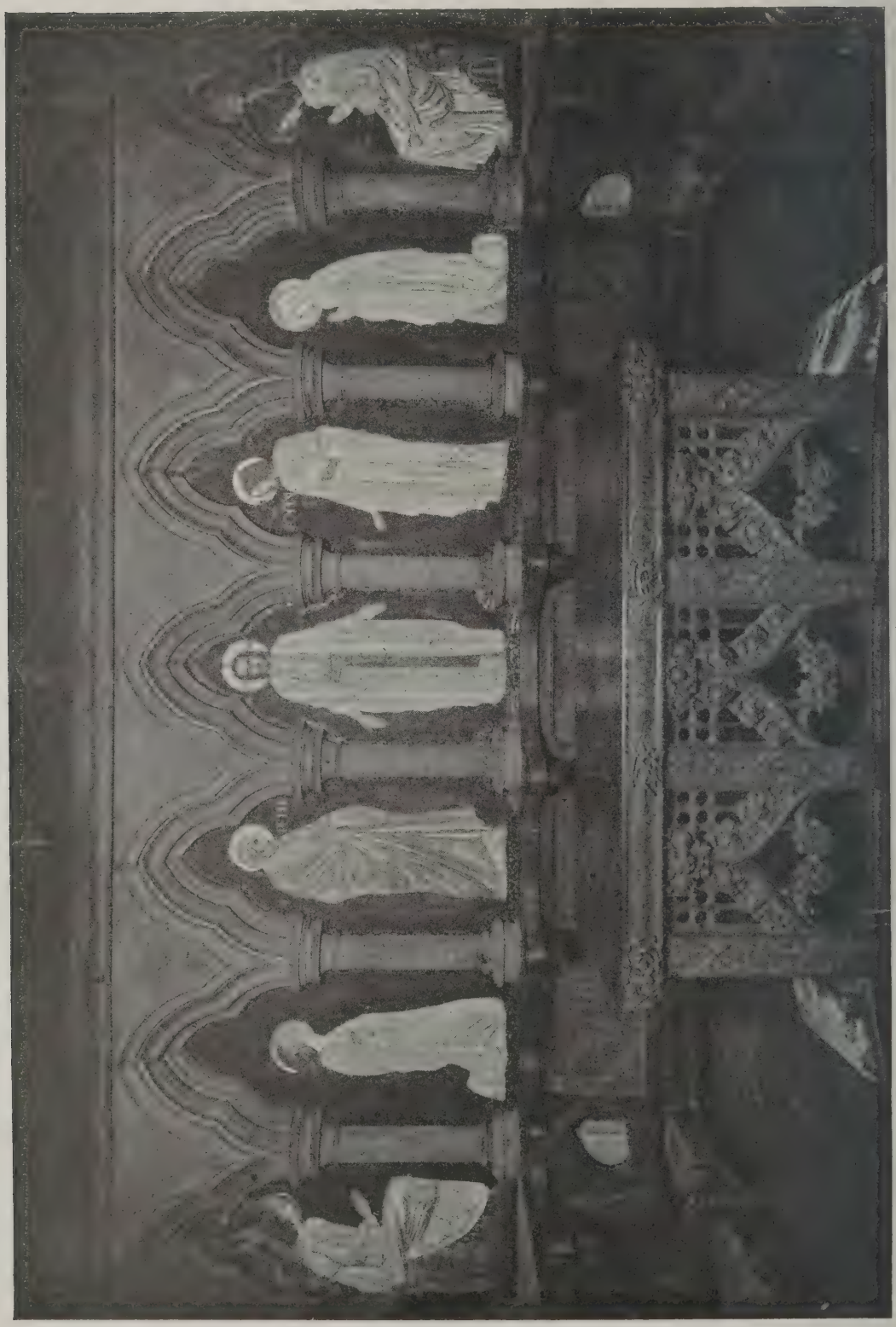
I think that the fact that much of the work shown that evening on the walls of this room was intended for the entrance-hall of a large restaurant, and was designed to suit such a position, may have had something to do with this general feeling. Messrs. Moira and Lynn Jenkins had, indeed, succeeded too well. Their work seemed so entirely suited to its purpose that it produced the impression that that was its proper and only legitimate application. This, I feel that those artists will agree with me, is an unfortunate and false impression: they know



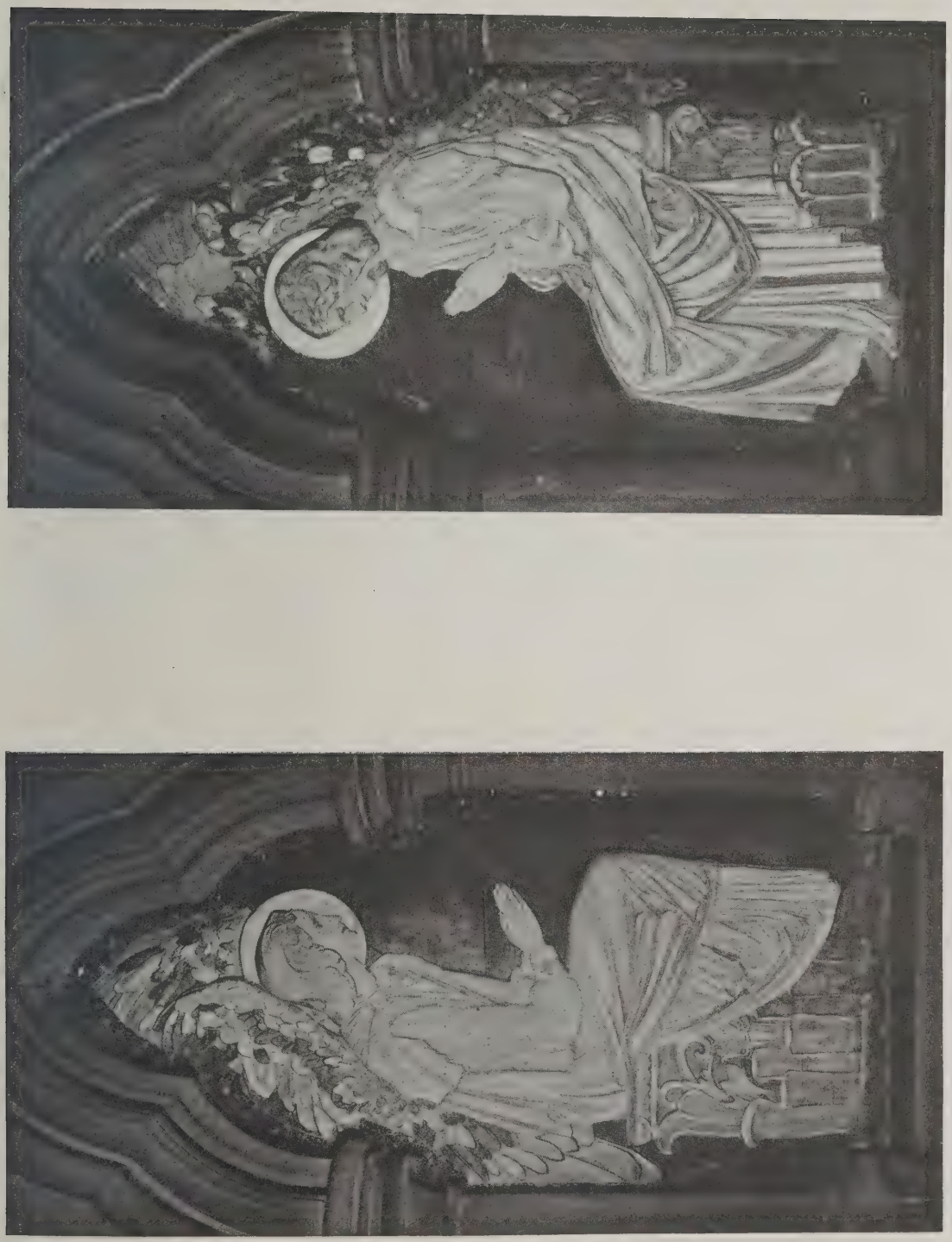
Locomotion and Transport: The Genius of Electricity uniting the Quarters of the Globe.

Locomotion and Transport: The Genius of Mechanical Invention uniting Agriculture and Commerce.

FRIEZE PANELS, PADDOCKHURST, DESIGNED AND MODELLED BY WALTER CRANE.



REREDOS, PARK CHURCH, GLASGOW. PAINTED RELIEF BY R. ANNING BELL.



ANGELS AT THE TOMB: REREDOS, PARK CHURCH, GLASGOW. (PAINTED RELIEF BY R. ANNING BELL.

that deep and rich and even sombre effects of colour may be obtained; personally, I rather prefer the effect of a low-toned scheme—a sort of subdued gorgeousness which rich colour laid over gold so naturally gives, and I particularly like it when associated with a good deal of black. In this way extremely noble and splendid and reposeful effects may be achieved by a man who

FROM ALTARPIECE IN SCANDINAVIAN CHURCH, LIVERPOOL.
(R. ANNING BELL).

is a real colourist, effects which will be, in the words the late Mr. Brydon used, "very broad, very simple, very stately, very strong in lines, not at all naturalesque, and not at all confused or jumbled up." Deep blues and greens and full-coloured reds, grave shades of brown or citron, ash-colour and purple, combined with a good "architectural" convention in the

Motherhood.

Small Panels in the house of Monsieur Mallet, near Dieppe.

PAINTED RELIEF BY R. ANNING BELL.

treatment of the figures, may be as readily attained in this material as in any other—by the man whose artistic powers lie in that direction. That, of course, is the essential condition for success. Very little work has, as yet, been done, very few experiments made, and very few artists have had the opportunity of testing their powers. It lies largely, I may say entirely, with the architects to give those opportunities, and I am here to-night in the hope that the claims I am making and the pleas I put forth for the greater encouragement of an art which I sincerely believe capable of very great and beautiful developments, an art which is worthy

of the brains and hands of the greatest artists, may induce some of you to take your courage in both hands and experiment. I feel confident, too, that capable executants can be found to-day besides those few who have as yet practised this combination of form and colour; and as the conditions of training are slowly improving and common and sympathetic interest is encouraged between the architect, the sculptor, and the painter, we shall find as time goes on many young artists arise who are quite capable of working with a true "architectural" understanding of the relation of their share of the work to the whole, and who, as colourists and as modellers, can act as true colleagues and assistants to the architect.

OVERMANTEL PANEL: MUSIC AND DANCING. (R. ANNING BELL.)

DISCUSSION.

Mr. Reginald Blomfield, A.R.A., *Vice-President*, in the Chair.

Mr. WALTER CRANE said he rose with great pleasure to propose a vote of thanks to Mr. Anning Bell for his very interesting and suggestive Paper. He remembered, when he was working with Mr. Bell on the Arts and Crafts Exhibition at Turin, the Italian papers in their enthusiastic way spoke of Mr. Bell as the English Della Robbia. He had done very much that evening to justify this honourable title. He was glad to hear him touch upon a rather important point when he alluded to the difficulty at the present day of different artists working in harmony together. His remarks on that point were perfectly true. It was one of their main difficulties in public work, where it was necessary that a number of artists of different kinds should work together. It was so rarely that the sculptor harmonised with the architect perfectly, or *vice versa*. If we looked for the reasons of such things—and, of course, somebody or something must be blamed—it would be found to be the commercial and economic system under which we exist. But we could not immediately alter that, so we must do the best we could under the circumstances. He might be permitted to express regret that it was not possible for Mr. Bell to show the slides in colour. An ordinary photograph appeared to give the tone, but in many respects it falsified the relation of the colours, so that it was difficult to form an opinion from an uncoloured slide of a coloured photograph of the real effect of the coloured reliefs shown. With regard to the Burne-Jones Pegasus, the original of which was exhibited at one of the summer exhibitions at the old Grosvenor Gallery, the design as shown in the slide was complete, as it was without any foreground and the figures were isolated upon a wooden panel of some kind, oak or mahogany, with the grain of the wood showing. The figures were done in flat relief and silvered, and the lines, having the appearance of painted lines in the photograph, were incised in the relief almost down to the ground. That seemed to be a system which commended itself to Burne-Jones, because he remembered a coffer he exhibited,

which was worked out by Mr. Osmond Weekes in the same method, similar to some kinds of early gesso Italian work. The ceiling which Mr. Bell showed of his (Mr. Crane's) design at Coombe Bank was not strictly a coloured ceiling; the colour was due to tones of silver and bronze and gold which were used, and these were difficult to convey by a photograph. The ground was bronzed gold, and the figures for the most part silver, with various coloured bronzes on the top of that. Mr. Maurice Adams had reminded him of another work of his (Mr. Crane's) in a house in Holland Park where the reliefs were silvered and coloured by means of lacquers, the lacquer being used either full strength or diluted with spirit. He had also used this method of colouring in small works of gesso relief and found it effective. The method of clay modelling and casting in plaster was not the only one, but it was possible to model it in stucco or plaster of Paris with tow, or, for smaller work, with cotton wadding. It was possible to work freely with satisfactory effect by modelling straight on the fibrous plaster ground. The Coombe Bank ceiling was mostly done by this method, especially for bold effect. Mr. Bell had alluded to the difficulties which decorative artists now laboured under. There were now so many enterprising people under the names of various firms, who absorbed into themselves clever craftsmen, who could offer those who had money to spend every possible thing, from the design of a house and garden to the decoration of a house and all that therein is complete for a fixed contract, and undertake to do it "while you wait," or in the course of a few months. That kind of thing was impossible for the private artist. There used to be people of courage who went to private artists and asked them to design and model such things as Mr. Bell had shown. They were people of considerable resource in the way of wealth, but most of them apparently had died out. People preferred now to place themselves in the hands of various firms whom he would not name. It appeared that artists were now thrown, for their future prospects, upon the architects, and their only hope was for the architects to give them the chances and the opportunities. This was all that modern artists required. One reason perhaps why in England public monuments and decorative works were not considered so successful was that the public had not been prepared for such things. Anything new in art on any public monument was looked upon as fair game. When Landseer's lions were put in Trafalgar Square small boys threw stones at them. They would have to get over that sort of ignorant hostility, but they wanted, above all, more practice in these things. He was afraid that we, as a nation, did not regard public art, from temporary street decorations to monumental memorials of great monarchs, with that seriousness that we should. We did not regard them as vital expressions of national feeling, and that was one reason why we seldom succeeded in expressing that feeling.*

Professor GERALD MOIRA [*H.A.*], in seconding the vote of thanks, said that Mr. Anning Bell had given them everything there was to say about coloured relief, and it was a great deal more than he (the speaker) knew before. When Mr. Bell said he was not going to enter at all into the technique of the subject, he thought he was going to have the chance to say something. But Mr. Bell had gone so thoroughly into the technique that that impression was wiped away. He was sorry to hear Mr. Bell say what he did about giving the architects a loophole, and that a very charming and a very cheap effect might be arrived at by repetition. It was rather a pity, he thought, from their point of view; but still, he forgave him, because he rather agreed with him. When he was doing coloured relief with Mr. Jenkins he came to the conclusion that the principal feature in coloured relief was its flatness of modelling; and he thought it required an entirely different treatment from the other relief. The sculptor who tackled it with a painter had to put himself on a different basis altogether, and treat the matter from another standpoint. But that Mr. Bell had very ably given them.

Mr. F. LYNN JENKINS, rising at the invitation of the Chairman, read the following remarks: As Mr. Anning Bell has said, twelve years have elapsed since on a similar occasion I read to you a short Paper on the subject under discussion to-night. Much water has flowed under London Bridge during those years which seem to have sped by so quickly. I remember I was then fired with ambition to secure from architects such an amount of practical appreciation of coloured relief decoration as would tend to make it one of the most vital branches of decorative art. I had dreams of a London made gayer with notes of harmonious colour to enhance the dignity of its eternal greyness. Gentlemen, I must have been young then; my hopes have been crushed under the iron heel of grim realisation—that, after all, they were but dreams. Perhaps, too, with advancing years I have become like the architects whose sympathies I sought to enlist—reticent in the matter of colour as applied to sculpture. None the less, gentlemen, I still have, deep down, the shameful conviction that colour can be used legitimately and with great enhancement

* I ought to have mentioned as among the early revivers of coloured relief, William Burges, the architect, who used bright colour on gold over carved stone figures in high relief, after the manner of those in the choir at Amiens. The late Thomas Armstrong also experimented in coloured relief, and executed a wall monument in three compartments which is to be seen in the church of Abbots Langley, Herts. Mr. Conrad Dressler, also, should have been mentioned as having executed important figure decoration in terra cotta or biscuit, coloured with glazed pottery colours after the manner of the Della Robbia work. Mr. William de Morgan also did some very interesting work in this way.—W. C.

of effect in sculpture decoration. And when I listened to Mr. Anning Bell's Paper the burden of ten years slipped from me and I found myself as keen as ever in advocating its use as a dignified form of decoration—possessing qualities and values unattainable by other means. Unlike myself, Mr. Anning Bell has never faltered in his convictions and has steadily gone on producing those whole-hearted, individual, and distinguished works which will ever be associated with his name. He is quite right when he affirms that coloured relief is a distinct art, in which the relation of colour and form must be that of lawful wedding, each taking its proper part in the production of a perfect result. This demands a singleness of purpose rarely to be found in collaboration, and there are few painters who, like Mr. Anning Bell, possess the ability to realise the full expression of their conceptions in both arts—modelling and painting. Perhaps this scarcity of accomplished artists in coloured relief work has been one of the factors against its wider use, following the law of supply creating demand. The fact remains that there has been no appreciable increase in demand during the past ten years, rather a decrease if anything, and I am sure Mr. Anning Bell will be, equally with myself, interested to hear from some of you your chief objections to this form of art, for strong objections, it is patent, there must be. None who spent any time seriously studying the wonderful collection of Japanese art last year at Shepherd's Bush could fail to be moved with wonder and respect for the masterly handling of colour as applied in flat tones, brilliant or delicate, to broken surfaces. And where these great decorative artists show such a lead, surely we can without any loss of national or other characteristics follow in their footsteps. I have heard it stated that a lurking fear as to its permanence prevents architects from adopting colour relief in their decorative schemes. I fail to see why this fear should exist; properly treated, even plaster will stand the test of ages, and the process of colouring, as adopted by my friend Professor Moira for one, adds enormously to its resistance. There are occasionally opportunities when money does not so largely enter into consideration, and in such cases absolute permanency can be obtained by using bronze of various patinas, marble, ivory, mother-of-pearl, and gold and silver to produce a harmony of brilliant but dignified colour. Surely such materials would lend themselves most admirably for the decoration of sanctuaries, reredoses, &c. Yet they are seldom if ever employed. In conclusion, I myself agree with Mr. Anning Bell that the chief apparent objection to coloured relief decoration has been its degradation in the hands of philistines, who have used it without any sense of fitness or taste either in execution or motive. These instances are to be deplored, as they militate against the serious consideration of its use by serious architects.

Mr. J. D. CRACE, F.S.A. [*H.A.*], asked to be allowed to say a few words on a subject on which he felt great interest. He had been delighted to hear Mr. Anning Bell's remarks on the art which he had treated so cleverly. While accepting the illustrations, of course one felt desperately the want of colour in them, and one had to try to fill up gaps which were too important to be left to the hearer to fill for himself. The one thing Mr. Bell did not mention or lay stress upon was really a very important one, viz. that in the colour treatment of the relief work so much depended on what was the surrounding, the support that it was going to have. The Trocadero, for instance, was mentioned, a very effective and clever piece of coloured relief. What gave it its value from the decorative point of view was, that it had below it a fitting of rich dark wood, which gave it sufficient support and tied the whole thing together. What there was always the risk of in the separate mention of any particular method of decoration was that architects were apt to think that they were decorating a building when they put in a certain number of square feet of decorative material, or decorative treatment of any kind. But, after all, a mere island of decoration was not decorative for the building. It was interesting in itself, but unless supported by general treatment the building more or less suffered, because the architectural lines were lost in the attraction of the coloured island. There was a very interesting instance of early treatment of coloured relief which probably Mr. Anning Bell knew very well—the drum of the cupola of St. Eustorgio in Milan—an instance of treatment at once playful and architectural, because there was a certain monotony in the treatment. The figures differed, but they had about the same balance in the position. There was an excellent model of it in the South Kensington Museum. This was one instance which was very well worth studying, not for imitation, but for treatment. One drawback to the use of the baked or biscuit terra-cotta, at any rate for internal decorations, was the weight of the material. It was very much heavier than plaster. Plaster practically would last as long as most buildings were likely to last. The work at Hardwicke which was mentioned had existed three hundred years, and although the colouring, which was originally very crude, was much rubbed off, the plaster work remained sound. Three hundred years would be enough for most of our buildings. Mr. Bell did not mention Spanish work, but there was much interesting coloured wood relief executed in Spain in the fifteenth and sixteenth centuries which was worthy of study, because it was treated with such vigour, and the expression was so cleverly given, and with such reserve. An important point Mr. Bell had brought out had already been alluded to by previous speakers, viz. that the success of coloured relief, especially where figure treatment was concerned,

largely depended upon the modeller and the colourist being identical. The sculptor who set to work to execute relief without reference to the colouring would be disappointed when the colourist came to treat it; and, on the other hand, the colourist would be disappointed in not having the best field for his work. If there were more men like Mr. Anning Bell, who could at once combine the sculpture and the colouring, then indeed coloured relief would become a very valuable and important form of decoration.

Mr. MAURICE B. ADAMS [*F.*] drew particular attention to the durability of the work at Hardwicke to which Mr. Crace had alluded. He had been more than struck to notice that in the uncompleted or partially demolished house which stands in front of Hardwicke Hall some of the decorations, which were very similar to those shown on the screen, had been exposed to the atmosphere from the time, he supposed, when the house was completed, and the work was still quite sound. Much of the brick work and some of the stone work had perished, but the figure stucco work, which had been quite as much exposed as anything else, was still standing. He thought this was worth mentioning at this juncture because there was no possible doubt that stucco was one of the most durable materials we had. He did not know when the use of stucco ended and where plaster began; but the figures in the decoration were practically the same as the frieze round the Throne room and other parts of the present mansion. With regard to the colouring of the kind shown that evening, and the objections which architects had to it, that was illustrated in the work of an extremely distinguished man, one of the greatest of his time—unfortunately he was not now working with them—viz., Alfred Gilbert. When visiting St. Alban's Abbey a few weeks ago, he had been perturbed with the reredos which Gilbert had put up there. There were two crouching angels, with heavy massive wings covered, he presumed, with mother-of-pearl, and the rising from the tomb of the Saviour was represented in the centre in a very archaic manner, and in lines which did not, to his idea, assimilate with the flowing forms of the wings or represent the essential idea of the Resurrection; the whole thing, however, seemed to him utterly incongruous with St. Alban's Abbey. If it had been in a church of a very modern kind, it might have been fitted to its environment, such as Mr. Crace mentioned; for after all, that must be the dominating note governing all applications of designs of that kind. The figures in the screen at St. Alban's filled one with dismay, and, with the crucifix which took the place of the silver figure which Lord Aldenham was willing to restore but which Lord Grimthorpe would not allow him to put there, were things which they need not comment upon. The coloured sculptured dossal could hardly be called a reredos, because there was the great altar screen furnished with the crucifix in the midst. The gaudy interpolation was unfinished, and probably Gilbert would never finish it, but it illustrates one of the incongruities carried out by our contemporaries in this historic church. It might have been a beautiful thing by itself, judged apart from its position, but in its present place it seemed to him a deplorable instance of incongruity.

Mr. H. HEATHCOTE STATHAM [*F.*] said it had been a great pleasure to him to hear Mr. Anning Bell, because it took his memory back to the time many years ago when he began to see in exhibitions small bas-reliefs with colour on them with the name of Anning Bell attached to them, and he remarked at the time that this was a suggestion for a new form of art. But Mr. Bell did not exhibit these things now. He showed his colour in the flat at the Society of Water-Colours, and when he (the speaker) wanted to enjoy colour he looked out for Mr. Anning Bell's pictures. But no reference had been made that evening to what was probably one of the most remarkable examples of colour applied to sculpture which ever existed—viz., the frieze of the Parthenon. There could be no reasonable doubt that it was coloured, but how far it was coloured they could not say. That explained to some extent why they put the frieze very high up and under the shadow of the portico; that they relieved it with colour so that, in spite of that want of light, it could be seen. The point, however, was that that was bas-relief, and very low relief. In the use of colour applied to relief sculptures it was important, he thought, to keep it in low relief. If it was put in too high relief, the colour made it look too realistic. There was an unfortunate example of that in Waltham Abbey. There was a piece of sculpture under the east window which was either designed by Burges or put in under his direction, which was in high relief and rather strongly coloured, and the effect was not at all good. He should be in favour of seeing this idea of coloured relief applied to London architecture, but he should certainly like to see it kept to sculpture in very low relief, and he hoped Mr. Bell agreed with him in that. In that way they would get the most refined and artistic effect without making the figures look too pronouncedly an approach to the realistic. It had been a very interesting evening to him.

The CHAIRMAN said he could echo Mr. Statham's words when he said it had been a most interesting evening. The painters had valiantly carried the war into the enemy's camp, and had laid the burden on the architect. They said it was the architects' fault that the painters had so few opportunities. Mr. Jenkins asked why architects did not appreciate this kind of work, and why they would not have it. There were reasons for and against on which he would venture a few remarks later. But before doing so he would express his agreement with the remark of Mr.

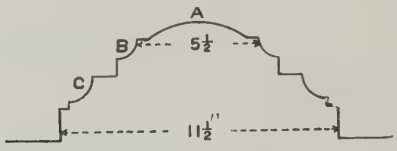
Crane when he was proposing the vote of thanks. Mr. Crane appealed to architects as the hope of the future, saying that if painters and sculptors were to have a chance they would find it through the architects. It was true it was their best chance, but painters from their side must also recognise that architects were artists; that they had also an art of their own, with very definite limitations and intentions, not always compatible with those of the painter and sculptor. That was a point which so far had been little recognised in England, owing to the deplorable manner in which the educated public had been misled by the criticisms of architecture by literary men. The greater qualities of the art still remained a sealed book to most Englishmen, but given the right relationship of the three arts, the most perfect masterpieces were those in which the architect, painter, and sculptor went hand in hand. Architects however must speak up for themselves a little. The architect's intention in the arts was not always done justice to, and his colleagues did not always make as full an allowance for his difficulties as they might. Many suggestive and valuable remarks had been made, but they always came back to this point, how far this coloured sculpture was to go. Mr. Bell, in his most admirable and interesting Paper, had not dealt with the subject historically. Mr. Statham had called attention to the frieze at the Parthenon. Coloured sculpture was used in Mediæval times, and in the Renaissance. It had been used freely and sometimes in a somewhat alarming fashion in recent times, and he thought he detected an important point of differentiation between the use of coloured sculpture in the past and its use in modern times. We did not know how far the Greeks took it, but he thought the evidence available tended to show that they used it in distinct subordination to the architecture. Their object was to heighten relief where, from various local circumstances, one could not see it properly, and to emphasize points that the sculptor could not make. If we came again to some of the best Mediæval work, that was tinted in brilliant colours, but flat. There was no colour in the illustrations Mr. Bell had shown, but he gathered that Mr. Bell and the artists whose work he had illustrated used their brush freely, and were in fact aiming at extending the range and carrying power of painting by the addition of modelling. That raised a very large and difficult question which it was too late to go into on the present occasion; it raised the whole question of the area and the limitations of the respective arts. His own view was that it was time they paused in their headlong career to ask what they were doing, to take stock of their position, and to consider carefully the possible results of this mixing up of the arts. Speaking as a purist, and an enthusiast for the older forms of music, it was to him like Wagner's attempt to recast the whole theory of the opera and indeed of music. He spoke with diffidence as the merest amateur, but his own opinion was that the results of that enterprise, as illustrated in what is known as the advanced music of the present day, were simply disastrous. He feared they might be drifting to some similar catastrophe, unless they called a halt and considered the situation in all its bearings.

Mr. ANNING BELL, in reply, said he should not try at that late hour to answer all the many interesting points raised. He did not wish to limit coloured relief work to the more painter-like side of it as the Chairman had gathered. He had said in his Paper that the painter-sculptor should work as a collaborator with the architect, and he wished to insist that his work should always be in subordination to the architect's general idea. Small reliefs which partook somewhat of the character of the easel picture might be subtle and elaborate, but big work must be simple, especially if far from the spectator's eye and of the type which the Chairman had suggested. Both could be done. His wish was to show how wide was the range of this method, and that if what many architects desired had not yet been done, it was for want of opportunity only. Simple flattish figures in silhouette against colour could be used, or elaborate work covered with gilding, silver, and the richest colour. He had not the least wish to prevent the simpler sort of work being done, and indeed would be very glad to assist in such work. Mr. Statham had mentioned the Parthenon frieze which he had had in his mind, together with the beautiful work to be seen in the altar-pieces, etc., of Spain and Italy and elsewhere, particularly in Spain. As to the Spanish work, the class of craftsman which carried out their work did not now exist; it would be impossible to find a single workman to carry out work of that sort on the scale then usual. So we had to confine ourselves to work which we could carry through with our own hands—it would be a life's work to educate men to do that sort of work—the workshop training which produced them has now disappeared. So Mr. Moira, Mr. Jenkins, and himself could only undertake what they could execute themselves: they could not get fifty or sixty craftsmen to help them. Architects knew well enough how cramped they were by this want of craftsmen in various directions. There was no doubt that the frieze of the Parthenon was painted. Modern people had to a great extent lost the power of appreciating form when combined with colour; no doubt the faculty had decayed owing to disuse. But he was sure that the Greeks did not miss the beauty of the modelling because of the colour which was over it: they appreciated both. All would agree that the Parthenon frieze was designed for colour, it was certainly not done for the modelling alone; there was none of the losing and finding of edges in it which would have been there in that case—in the very definite edges of the draperies for instance.

At that period both the public and artists appreciated the beauty of relief and of colour without being confused by their combination. To conclude, he would repeat that he wished it clearly understood that he always wanted work of this nature to be in due relation to the architect's general scheme, and welcomed the fullest expression of the architect's opinion.

Mr. J. D. CRACE, F.S.A. [*H.A.*] adds the following further note to the discussion : —

The question whether the Parthenon was coloured decoratively was again raised in the discussion on Mr. Anning Bell's Paper. There is really no doubt about the fact : the only doubt is as to what were the colours, and how the large wall surfaces were treated. During a brief visit to Athens in June 1869, when the whole surface of



the Acropolis was still strewn with fragments of the Parthenon, I found among the débris some of the coffered slabs, each about 15 inches square, which had been the panels of the roof of the peristyle. Some of these still retained the forms of the coloured ornament painted on them. In the small centre panel (A) was a star of 16 points, on a cobalt blue ground, while the plain ovolo mouldings (B and C) were both painted with a simple egg-and-tongue pattern. One may be sure that this narrow roof was not alone in colouring. But we have the analogy of the so-called "Sarcophagus of Alexander," now in the Constantinople Museum—of the same period and probably by the same sculptors as the Parthenon frieze. In this beautiful work—perhaps the finest in existence—all the figures of the frieze are coloured, and are upon a blue ground. The scale is, of course, small ; but the remains of the colouring are so extensive that one can be in no doubt about the treatment. The colouring may be found reproduced in the fine folio publication of Hamdi Bey.

But what it seems necessary to repeat continually is that *isolated* bits of colouring, whether as pictures or coloured relief, are not in themselves decoration. That is, they do not express or beautify architecture. To do this they need to be part of a general scheme, and to be by the surrounding treatment so allied to the structure as to give it value ; instead of, as isolated colour, drawing attention to itself at the expense of whatever is admirable in the building.

THE ANNUNCIATION. (PAINTED RELIEF BY H. WILSON.)

REVIEWS.

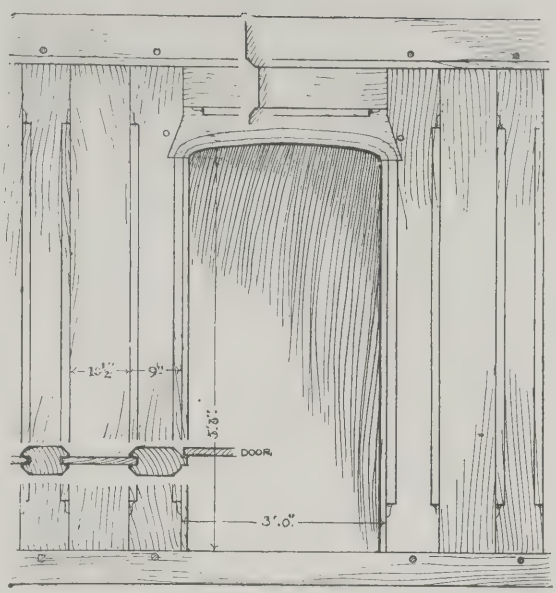
OLD ENGLISH ARCHITECTURE.

The Domestic Architecture of England during the Tudor Period. Illustrated in a Series of Photographs and Measured Drawings of Country Mansions, Manor Houses and Smaller Buildings, accompanied by an Historical and Descriptive Text including a large number of Plans and Details. By Thomas Garner and Arthur Stratton. Large folio. Lond. 1911. *Subscription price for complete work £6 6s. net, in two cloth portfolios; £7 7s. net, bound in two volumes, half morocco.* [*B. T. Batsford, 94 High Holborn, W.C.*]

This really beautiful work is now completed and is issued to the public in two substantial volumes, which will be something of a surprise and altogether a delight to those who look through their pages, and do that which (it is to be feared) but few possessors of large architectural books ever do, and that is—read the text. The surprise will be evoked by the extraordinary number of beautiful late Gothic buildings which still exist. The delight will be aroused by the fine photographs, the well-drawn details, the variety and attractiveness of the subjects; and not a little by the painstaking research embodied in the text. Those who are familiar with the ancient domestic architecture of England will find here many old acquaintances; but they must have been unusually fortunate in their excursions if they do not also find many examples which they have neither seen nor heard of.

The scope of the book includes work which is still truly Gothic, work which shows the influence of the Renaissance in varying degrees, and work which is purely Elizabethan. The last must be regarded as

HADDON HALL. STAINED GLASS NO LONGER REMAINING.

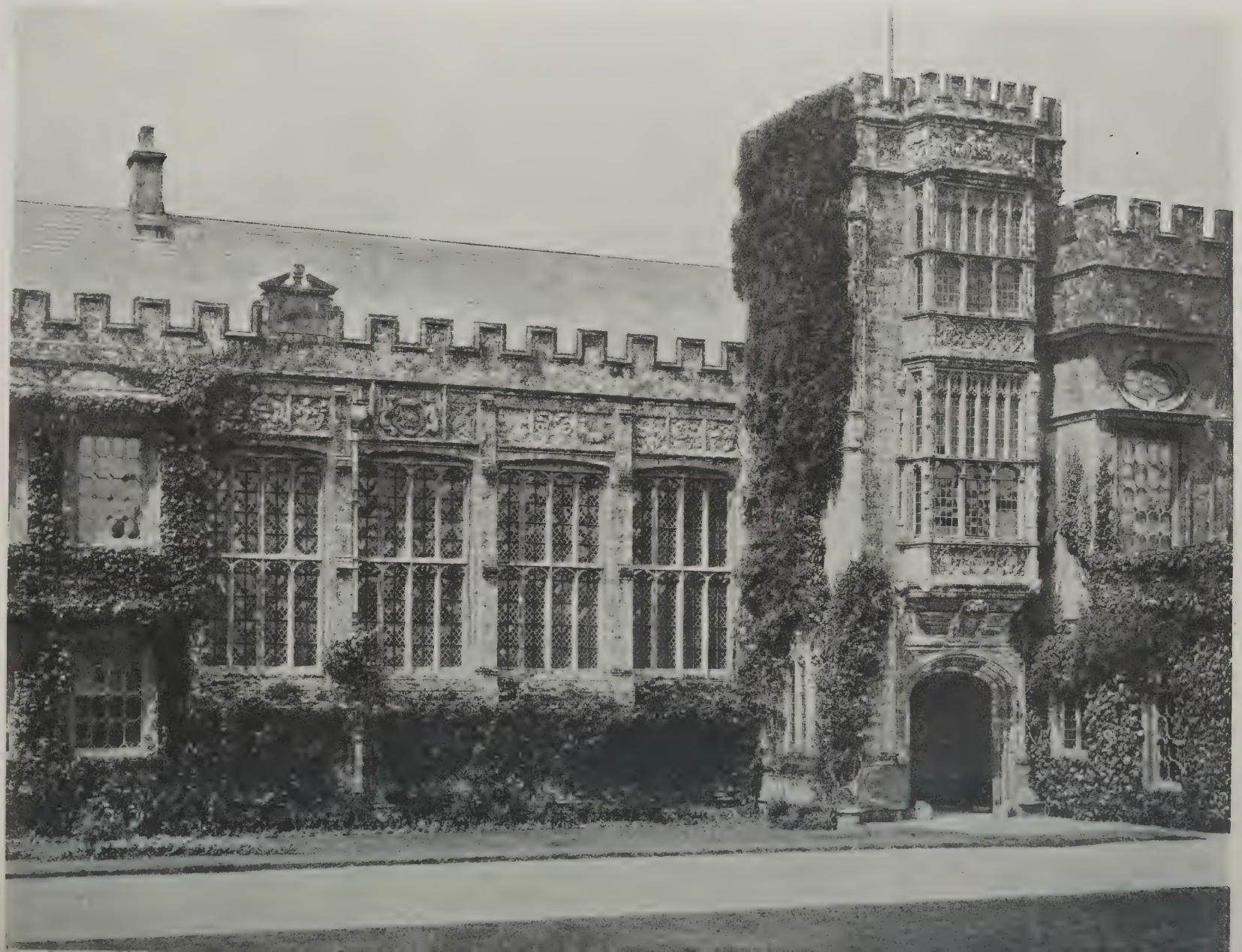


OAK-FRAMED PARTITION FROM AN OLD HOUSE AT TAUNTON.

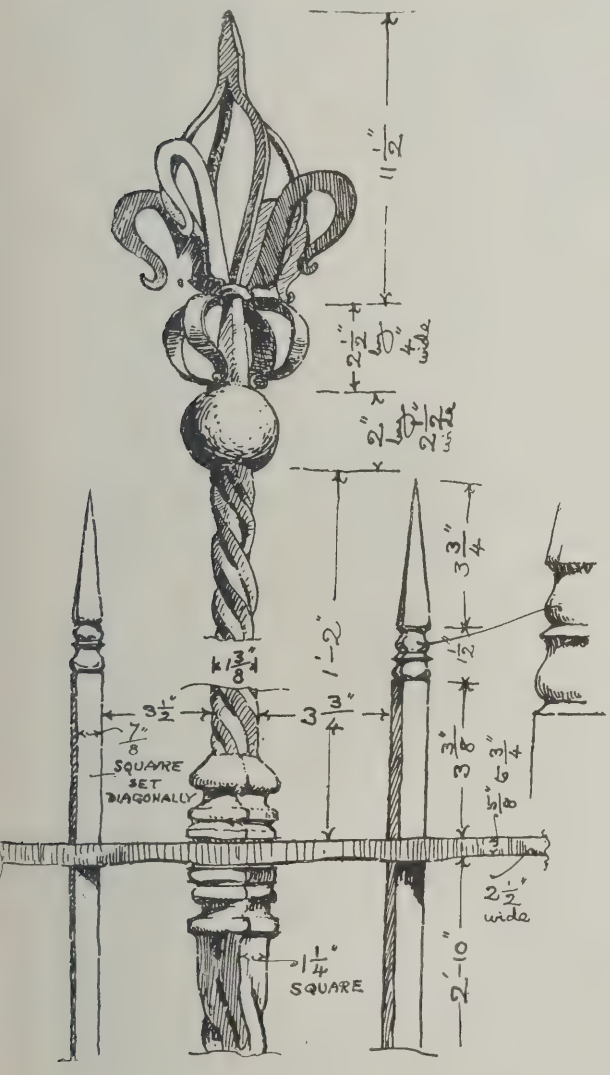
linking up the old order with the new, and must plead this excuse for its inclusion; for, surely, it is more needful to differentiate the Tudor style from the Elizabethan, than in any way to confuse them.

Except as links—in which capacity they are quite useful—there was little need to include such Elizabethan buildings as Snitterton, Arreton Manor House, Doughton Manor House, and about a dozen others, for there was no lack of truly Tudor buildings to illustrate; that is, those which still retain a preponderance of Gothic character. Nobody probably—not even the authors and publisher—had any idea of the wealth of this period of work until they began to look for it. But it becomes quite evident, as one turns over the pages, that already in the times of Henry VII. and Henry VIII. men had begun to take a delight in beauty for beauty's sake. They built not merely for safety, but for comfort of a sort, and for the pleasure of looking upon attractive things. It is true they were still jealous of free access to their houses; they kept their outside windows rather small; but they did not regard the risk of their windows being broken as great enough to prevent their filling them with splendid glass. Nor did they hesitate to adorn their entrance doors with delicate carving. Fortunately for us, their confidence was in many instances not misplaced, as we see by many examples in this book.

To the architect the series of details at the end of the second volume will be not the least valuable part of the work. The illustrations, with their explanatory text, are not only interesting and helpful in themselves, but are suggestive of even wider fields than it was possible to traverse in the



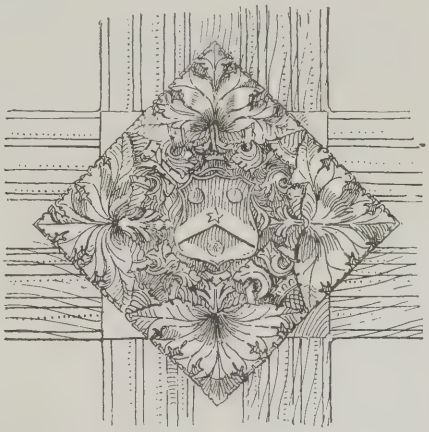
space at command. The historical conclusions will be found, generally speaking, to be sound, and the facts to have been carefully ascertained. Of the value of the latter point only those will be fully cognisant who have had to pursue inaccurate statements through countless repetitions in book after book. Large volumes like these are often regarded merely as collections of photographs



WROUGHT-IRON RAILINGS AND STANDARD AT HAWSTEAD, SUFFOLK.

and drawings with a little perfunctory text by way of explanation; but in this particular case the size of the book should not deter the inquirer from looking to it for valuable information and deductions; indeed, the large scale of the illustrations is of great assistance in ascertaining the exact nature of any particular feature. Those reproduced here will give an indication of their scope. The numerous plans are also important contributions to the historical side of the work.

The thanks of all those who are interested in domestic architecture, whether as owners of old houses or as architects engaged in their preservation, or again as students, are due to the compilers of these volumes. It was the late Mr. Garner who started the work, but his death occurred at a very early stage in the undertaking. Mr. Arthur Stratton then took up the task, and upon him fell



CARVED CEILING BOSS, PONTRILAS COURT; HEREFORDSHIRE.

the bulk of the responsibility, and to him belongs the chief credit. Backed by the sympathetic and generous co-operation of the publishers, Messrs. Batsford, he has produced a work of which the value will be the better appreciated the more it is examined.

J. A. Gotch, F.S.A. [*F.*].

EARLY TEUTONIC BUILDINGS.

Urzeitliche Bauernhöfe in Germanisch-Slawischem Waldgebiet. Von K. Rhamm. Erster Teil. Altgermanische Bauernhöfe im Ubergang vom Saal zu Fletz und Stube mit 152 in den Text eingedruckten Abbildungen und zwei Tafeln. Braunschweig. Kommissions-verlag von Friedrich Vieweg und Sohn. Pp. xxxii, 1118.

This book—an excellent example of German learning—is a careful and minute inquiry into the plan, form, and construction of the ordinary house of the Teutonic peoples in early times, a subject which has been almost neglected in England but carefully studied in Germany; the bibliography which Herr Rhamm gives is a practical illustration. It occupies four pages, and in it there are only five English books; all the rest are German or Scandinavian.

English building construction is largely Teutonic in its origin, and so it is necessary for anyone wishing to understand the history of our ordinary buildings and their construction to be acquainted with

their continental congeners ; I know of no better guide than this book of Herr K. Rhamm. In addition to relying upon documentary evidence Herr Rhamm has travelled widely in his search for existing primitive constructions, and very interesting is his account of the buildings in the west of the Austrian Empire where Germans and Slavs meet.

The author is not so well acquainted with these islands as he is with the Continent, and has fallen into a few errors. Thus Professor Wright, compiler of *The English Dialect Dictionary*, is also credited with the authorship of *The Homes of other Days*, and of those old English vocabularies which another German, R. W. Wülcker, has made so useful by his indexes ; that, however, is a small matter ; more important is the argument which Herr Rhamm has drawn from a search in the *English Dialect Dictionary*, which has shown him that the terms rig-baulk, rig-tree, &c., do not occur in Southern England ; and from this he concludes that our early roofs in the South had not ridge-pieces ; of course, the explanation is that the word ridge does not occur in the *Dictionary* because it is standard English, and the softening of the consonants *k* and *g* into *ch* and *dge* is taking place from South to North.

Herr Rhamm sees the importance of the roof in the classification of construction types, for the roof is older than the wall. He finds three original types in the Teutonic countries, and these correspond with the language divisions—Scandinavian, Low German, and High German ; the first and the last have ridge-poles or pieces, but Herr Rhamm is convinced that the Low German roof was without them from very early times, being a *sparrendach*. The subject is exhaustively discussed in the book, and is puzzling because there is evidence that Anglo-Saxon roofs had ridge-pieces before the coming of the Danes. Roofs without ridge-pieces do not occur in this country, so far as I am aware, before the thirteenth century, so possibly the universally used English ridge-piece is a survival from Romano-British times.

The discovery of America and the Cape route to the East entirely altered the status of England in the world ; this was followed by an almost bloodless Reformation, freedom from foreign invasion, and —during the Commonwealth—a broadening of the basis of government, which, though premature and checked, was not again entirely destroyed ; this was followed in the eighteenth century by the enclosure of the common lands and the resultant adoption of individualism in agriculture. All these raised the culture-stage of England much above that of Northern and Central Europe, which did not possess such advantages, and, as a consequence, types of buildings and constructions which have long been obsolete in England linger on in the Teutonic lands of the Continent.

To give a few instances ; Herr Rhamm gives thirty-five pages or thereabouts to the light- and smoke-holes (*lichtloch* and *rauchloch*), whereas we have practically no material for the study of these features in early England.

The specialisation of buildings according to use has made much more progress in England than on the Continent, and the book contains many descriptions and plans of what may be called " compound houses," in which human beings, cattle, corn, &c., all have place in the same building. The only English indication of this which I can recall is in the Elizabethan Bishop Hall's *Satires*, in which he says :—

> " At his bed's feet feeden his stalled teem,
> His swine beneath, his pullen o'er the beam ;
> A starved tenement, such as I guess
> Stands straggling in the wastes of Holderness ;
> Or suc . as shiver on a Peake-hill side."

And the *Satires* are evident exaggerations.

The most primitive method of carrying the ridge-tree is, I believe, by upright posts or poles at each end ; this is widespread over the world and extends even to remote islands in the Pacific Ocean, and the Welsh " summer dwelling " of a thousand years ago was apparently formed in this manner. When a building was required longer than the length of one ridge-pole, the junction of the poles had to be propped by similar upright posts, which were inconvenient. In England I know of no existing old example, and there seem to have been more advanced methods in use from Romano-British times, but there are numbers of examples of buildings with these primitive upright posts still in existence in the Teutonic lands of the Continent.

It is impossible to do justice in this short review to a book of over 1,100 pages of facts and deductions, but I hope that I have shown that it should be in the library of every student of the national characteristics of our old English buildings.

C. F. Innocent [*A.*].

COUNTRY HOUSES.

Small Country Houses of To-day. Edited by Lawrence Weaver. " Country Life Library." 4to. Lond. 1911. *15s. net.* [" *Country Life" Offices, 20 Tavistock Street, Covent Garden.*]

Small Country Houses of To-day is a new volume of the " Country Life Library." The book is a reprint from the pages of *Country Life*. The illustrations (some of which are here reproduced) are from excellent photographs, with scale plans usually showing the lay-out of the garden and grounds. With these are critical and appreciative notes, in most cases the work of Mr. Lawrence Weaver.

The pleasing yet economical disposition of the elements of the small house is a problem always new. Of the forty houses illustrated in this book some gems are shown, and others there are to whom publicity is unkind. In domestic architecture we

THE RED HOUSE, UPTON, KENT. DESIGNED BY MR. PHILIP WEBB. SOUTH-EAST CORNER AND WELL.

LUCKLEY WOKINGHAM. DESIGNED BY MR. ERNEST NEWTON. THE GARDEN FRONT.

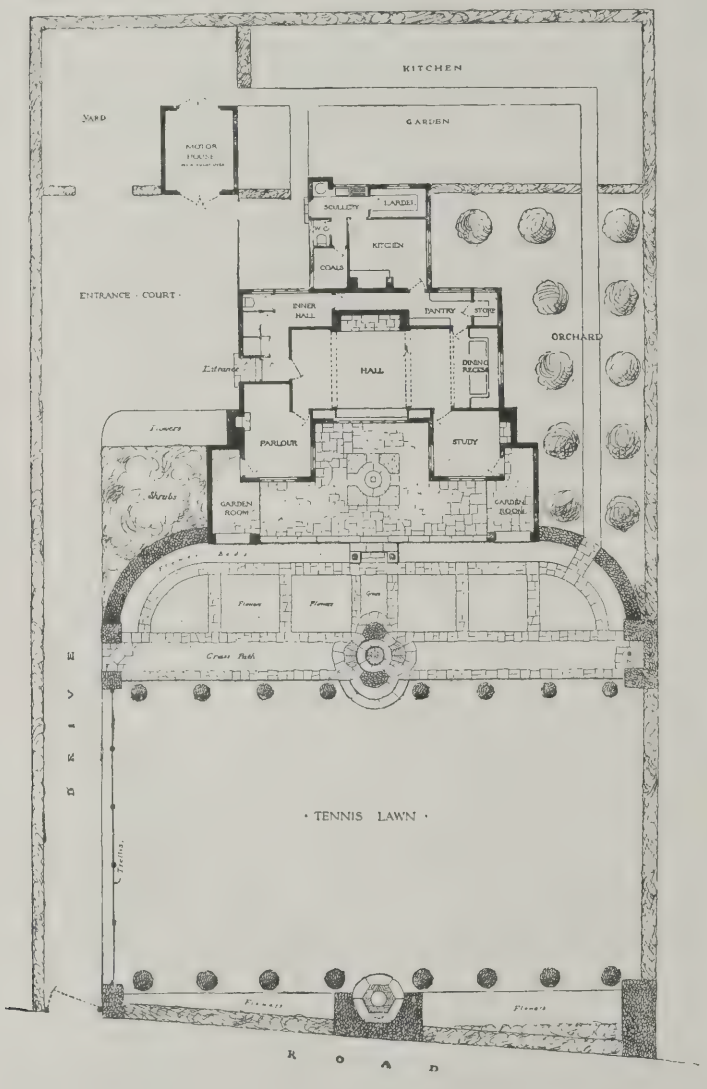
MIDDLEFIELD, GREAT SHELFORD, FROM THE SOUTH WEST. DESIGNED BY MR. E. L. LUTYENS.

BISHOPSBARNS, YORK. DESIGNED BY MR. WALTER H. BRIERLEY. THE STREET FRONT

ACREMEAD, CROCKHAM HILL, KENT. DESIGNED BY MESSRS. DUNBAR SMITH AND CECIL BREWER.
THE ENTRANCE NORTH FRONT.

THE HURST, FOUR OAKS, FROM THE SOUTH-WEST. DESIGNED BY PROFESSOR W. R. LETHABY.

cannot lightly say "We like this" or "We like that." English domestic architecture has a standard of excellence accepted all the world over, a standard attained when the methods of production were kindly disposed to the expression of high qualities of craftsmanship and design. To-day, with needs far more complex, we have architects no less inspired, but how few of them can safely and happily bring their good purposes to fruition! That quality of success implies a passion for the service of architecture; it involves sacrifices of time and money which business-men would regard as suicidal. Men who serve in this way may not always win to public estimation, but they have the greatest reward of all—the respect of their fellow artists. It is delightful in these pages to come across Mr. Philip Webb's "Red House," Upton, William Morris's first home, as fresh and pleasing to-day as it must have been to the understanding eye fifty-two years ago. More individual is the house at Sutton Coldfield by Professor Lethaby. Those who, like the writer, have seen this house will have realised how current craftsmanship of the best may permeate an entire fabric.



PLAN OF ROSEWALL, WIMBLEDON. DESIGNED BY MR. M. H. BAILLIE SCOTT.

Local traditions are faithfully conserved in the two houses at Sapperton, with results as delightful as unfortunately they are rare. These are the work of Mr. E. Barnsley and Mr. Gimson. At Great Shelford Mr. Lutyens shows us the type of traditional English work most suited to the ordinary needs and ordinary methods of production to-day—a type he lifts by scholarship and rare ability above the dull level of so-called traditional design. Those who know the difficulties of design appreciate concise, straightforward plans, orderly and balanced elevations; for architecture, however ornate, stands for an ideal economy, simple not through poverty of ideas but through a mastery of realities. This architectonic quality, common in a greater or less degree to the best houses in this book, is expressed in perfection by Mr. Ernest Newton in his house at Wokingham. "Gilham's Birch," Rotherfield, by Mr. E. J. May, and "Bishopsbarns," York, by Mr. W. H. Brierley, are both delightful and characteristic examples of their authors' work.

It is impossible to mention all the good things in the book. Noticeable amongst many are "Acremead," Crockham Hill, by Mr. Dunbar Smith and Mr. Cecil Brewer; "Coldicote," Moreton-in-Marsh, by Mr. Guy Dawber; and a house at Four Oaks by Mr. Bateman. Among features of special interest in the illustrations are the garden walls by Mr. F. W. Troup and the general ground-plan of "Rosewall," Wimbledon, designed by Mr. Baillie Scott.

The service which Mr. Weaver is rendering to the cause of domestic architecture in this country by the weekly publication of these houses is not small, and can only be measured by the standard of the illustrations chosen and the discrimination of his text.

W. Curtis Green [*F.*].

TOWN PLANNING.

PAPERS COLLECTED BY THE R.I.B.A TOWN PLANNING COMMITTEE.

XXI. A PRACTICAL GUIDE.

A Practical Guide in the Preparation of Town Planning Schemes. By E. G. Bentley and S. Pointon Taylor. With a Foreword by Raymond Unwin. Including a Model Set of Coloured Plans. 8o. Lond. 1911. *Price 5s. net.* [*George Philip & Son, Ltd., 32 Fleet Street, E.C.*]

It is believed that, up to the present, authority has been given to local authorities in four cases to prepare schemes under the Town Planning, &c., Act, and no doubt a good deal of work is now being done of the nature foreshadowed in Messrs. E. G. Bentley and S. Pointon Taylor's book. The need for a practical guide must be felt by all who have made any study of the provisions of the Act and of the elaborate regulations issued by the Local Government Board. It must be admitted, though, that the data on which to found such a guide are more or less conjectural at the present moment. The more credit to the authors for their bold attempt to grapple with the difficulty and to come to close quarters with the details of this important matter.

The "General Regulations" provided by the Act and promised by the Local Government Board are not yet forthcoming, and it may be regarded as certain that the pioneer authorities, who are preparing schemes, will have the onus—if not the credit—of making the first specimen regulations. Though recognised principles for framing a scheme are therefore non-existent, the office-made, stereotyped form will be avoided, and in the long run this will probably result in more freedom and originality than would otherwise be the case. Time alone will show whether the restrictions, stipulations and provisions included in the model plans of the authors, which form an important appendage to their work, will be found to be actually within the scope of the Act or sufficiently comprehensive and explicit. Be this as it may, there are many useful and thoughtful suggestions for the framers of schemes, and not the least interesting and important parts of the book are the appendices containing extracts from the Hampstead Garden Suburb Act (1906) and the Liverpool Corporation Act (1908). No actual draft scheme is offered to the reader, though it cannot be doubted but that the written document, containing the provisions of the scheme, will play a part as important as the maps and plans themselves.

The information given as to the detailed steps to be taken anterior to and for the purpose of an application for authority to prepare or adopt a scheme, and similarly the steps during and after the preparation or adoption of a scheme, should go far to dispel the clouds of predicted difficulties which the "procedure regulations" at first encountered. When carefully analysed and dissected they do not appear so full of delays and obstruction as was suggested, and when it is remembered that the Local Government Board has not only expressed, but shown its willingness to make them workable and to smooth difficulties, there need surely be no longer diffidence by local authorities on this account in taking up the question. The specimen forms of notices which are given are perhaps in unnecessarily legal terms, and it may well be that invitations to solicitors to state their clients' objections will cause a local authority more trouble than if all questions relating to town planning were, as they should be, left in the hands of architects and surveyors.

It is, however, with the details of a scheme, rather than the procedure, that architects will be most interested, and the chapters dealing with such matters as road construction, grass margins, tree planting, architectural homogeneity, limitation of number of buildings, height and character of buildings, open spaces, preservation of objects of interest or beauty should be read with attention.

There is no point upon which there is room for a wider divergence of opinion than in regard to the classification of buildings as affecting "character." Any stipulations regulating the "character" of buildings are not subject to compensation under the Act, if the Local Government Board consider them reasonable. The authors take a somewhat narrow view of the expression "character" and would apparently confine it to the definitions contained in the Model By-Laws, *i.e.*, public buildings, warehouse and domestic buildings and dwelling-houses. It may be found to have a far wider range and may perhaps even include "architectural character." It would be well in the first instance, at any rate, to treat this point as widely as possible, and architects may see here the opportunity of some control being exercised upon the cheap-made ugliness of the speculative builder. It is too hopeless to imagine, however, that one class of plans will be controlled and not another; and a sharp look-out should therefore be kept upon the earliest schemes to see that such restrictions, if any, upon architectural character, which may be enforced, do not give more power to local authorities than members of the Institute would care to contemplate.

These and many other points connected with the Act are eminently matters to be taken up by architects, and the book is, therefore, one which should be read by them.

FRANK M. ELGOOD [*F.*].

LINCOLN CATHEDRAL.

By W. Watkins [*F.*].

The observations of Sir Charles Nicholson and Mr. Codd, which appeared in the Institute Journal of the 1st April, need some further reply, because there appears still to be some misunderstanding about the manner in which the high vaults of St. Hugh's choir of Lincoln Cathedral were constructed, and particularly as to whether they were constructed by St. Hugh at all, and also as to whether he only made provision for them in the building during the progress of the works; and, furthermore, as to the way the vaults are supported on the clerestory walls.

But, before proceeding, it may be well to direct attention to the accompanying single sheet of drawings, which will probably aid the explanations I hope to add to those already given of the peculiarities and difficulties surrounding the history of St. Hugh's work.

Fig. 14 represents a sectional plan of the clerestory, on line AA, as we believe it to have been originally built.

Fig. 15 is a sectional plan of the clerestory as it now exists, on line BB.

Fig. 16 is a sectional plan of the triforium arcade as originally built, on line CC.

Fig. 17 is a sectional plan of the triforium as it now exists, on line DD.

Fig. 18 is a conjectural elevation of the interior of the triforium, showing the arcade reduced in height as compared with the drawing, fig. 5, published with our "Notes" last November; it may, however, be treated in many other ways.

Fig. 19 is the internal elevation of the triforium and clerestory as they now exist—showing also the vault web in section.

Fig. 20 is a section through the main wall, on line EE, showing the triforium and clerestory as they now exist.

Fig. 21 is a section through the main wall, on line FF, also indicating the portion of the vault web (but not sectionised) to show how little of the inside wall dressings it was necessary to remove to admit of the vaults being constructed.

Mr. Codd's examination of St. Hugh's work was evidently carefully made, and his practical capabilities enabled him to observe points of importance that appear to have escaped the notice of the casual observers.

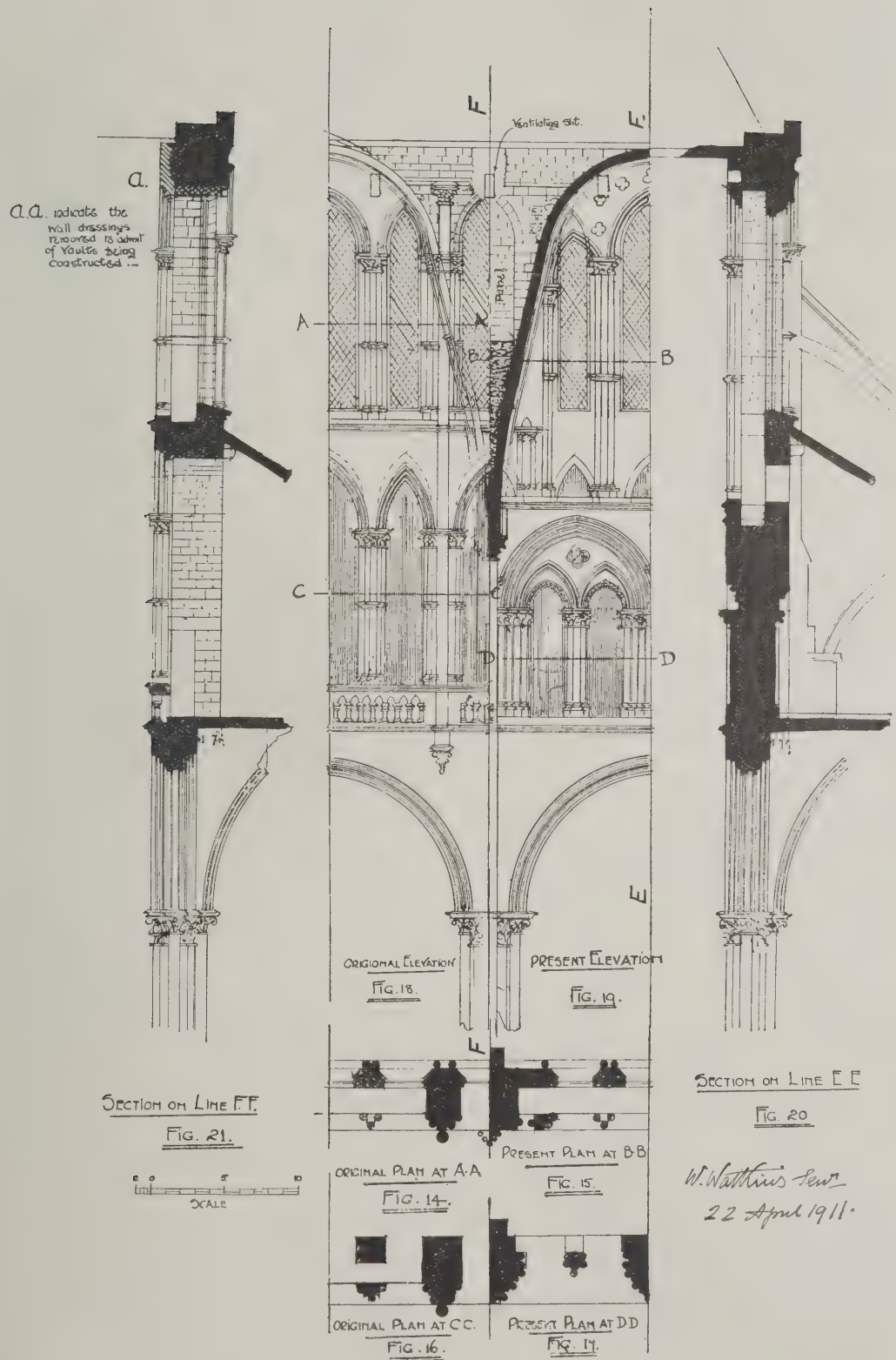
Mr. Codd is right when he says that the springers of the vault ribs of the choir aisles rise directly from the vault shafts, quite independently of the walls; and so independent are they that there is a space of some 5 or 6 inches between the extrados of each transverse rib and the main wall behind it. It should also be noticed that there are no wall ribs at the choir side of the aisle to support the vault webs. This vaulting must therefore be in exactly the same condition as that described by Sir Charles in his reference to the high vaults, about which he says: "The vault web would have to spring from a pin point or a knife edge at A unless it were engaged in the wall"—see his sketch (Journal R.I.B.A. 1st April).

And he further says, "It would have been unsafe to have built the vault web into a chase in the wall as the least settlement would cause fractures." But that is just the condition of the present vault webs of the choir aisles, for they are either built with a knife edge against the main wall, or they are built into it just above the arches of the main arcade, as will be more fully explained later; and if, therefore, it would have been unsafe to do this with the high vaults, is it not equally unsafe with the low vaults? Yet no fracture has been caused by it. It nevertheless cannot be denied that such an arrangement is bad construction.

Sir Charles also thinks "the nave of Lincoln Cathedral one of the lightest buildings in the country, and in this respect surpasses all contemporary works of its size." And yet, by measurement, the piers and arches of this nave (which were built to support vaulting) are 5 feet thick, or nearly double those of the choir; and, besides this, the walls they support are properly poised over their centres, as are also those of the angel choir; and it will probably not be disputed that it is the safest and soundest work to poise walls of this kind over the centres of their supports—but here in the ritual choir we have piers which are only 2 feet 8 inches thick, and arches over them only about 3 feet thick, with the walls they support 4 feet 7 inches thick, *not* poised over their centres as the others are, but overhanging to one side no less than 1 foot 7 inches, and resting on the vault webs as their foundations and supports.

It scarcely seems possible under such circumstances and conditions as these that the aisle vaults could have been contemplated from the first, or proper provision would have been made for their support.

Does it not seem more reasonable to suppose that St. Hugh's cathedral was designed, the works commenced, and the outer walls of the choir aisles built up as high as the crowns of the back arches of the wall arcade before St. Hugh and his canons ever thought of vaulting any portion of his church; and that when the works had thus far advanced, they enlarged their views respecting the building, and then, and not until then, instructed their architect *not* "to thicken his walls because he was taking great risks in building them too thin" (for of that fact he himself, as a practical builder, would be the best judge), but to make provision in his construction for vaulting the aisles; and to comply with these new instructions he found it necessary to strengthen the outer walls, which he did by adding a second arcade in front of that already built? But not so with the piers of the main arcade of the choir, most of which, we suggest, were already built up as high at least as these



W. Watkins Sculp.
22 April 1911.

outer walls, a suggestion that is strengthened by the fact, as before stated, that no provision was ever made for the reception and support of these vault webs at the choir side of the aisles.

Then as to the transformation of the triforium arcades, which seems to be the stumbling block of all the critics on the subject. We have always maintained, and I reassert it here, that the walls of the choir above the arches of the main arcade upwards to the roof were laid out in alternating wide and narrow bays, with moulded arcading in front and plain arches behind, of which the pigeon holes are the remains.

But Sir Charles suggests that, because these pigeon holes do not exactly centre with the clerestory, they could form no part of an earlier triforium arcade, and he further says, "Moreover, they are irregular and on different levels." The variations are but slight, and it would certainly be an astonishing thing if these arches were geometrically centred with the windows over them, or that the crowns of their arches should accurately range with one another throughout the entire length of the choir, for, in the first place, it is almost impossible to find two things alike in St. Hugh's work, and secondly, if there was one thing more than another which St. Hugh's architect seems to have abhorred, it was uniformity.

He observed it sufficiently to keep his work in harmony, but an alternating principle appears to have been his leading aim; for we observe it in the shafting of his main piers, alternating and running in pairs of different sections; in his triforium bays, not only alternating in wide and narrow spaces, but the grouping of the arches in them differing in one wide bay from that in the other wide bays right and left of it: in the one are grouped three narrow arches of equal widths, each about 2 feet 6 inches wide; in the other, three arches still grouped together but with the centre opening 3 feet 6 inches wide, and that on each side of it 2 feet 6 inches wide, having the crown of the wider arch sometimes varying a little in height from those of the narrow openings at each side of it.

Again we see this alternating principle in the treatment of the arcading at each side of the choir; at the north side the arrangement of these triforium openings (pigeon holes) is as that just described, whilst that of the south side has all the wider bays filled in with groups of the narrower arches, all of about equal widths and heights.

And again, we see the clerestory windows, as originally arranged, were alternating in wide and narrow lights.

One finds this principle running through nearly all his work, even to the planning of the chevet of his east end, which was arranged with alternating large and small chapels—and even in the nave the piers were apparently arranged in pairs, alternating as regards the shafting with which they are embellished.

But there is this fact relating to this alternating principle, it was invariably practised for a purpose; and those who will take the trouble to scrutinise St. Hugh's work with care will find that where the wider arch, the pigeon hole, occurs in the wider bays, it was the central feature of that bay, and its arch was probably a little higher than those of the narrower arches at each side of it; and that where the openings were of equal widths as on the south side of the choir they were of equal heights also, and therefore the variety of all these various divisions and groupings was intended to, and did unquestionably, break the otherwise monotonous features of the wall dressings and increase the interest of the observer in his work.

There is, therefore, nothing in these varieties of forms, and widths, and heights that could in any way interfere with the suggestion that the pigeon holes were the back openings of an original triforium arcade. On the contrary they rather tend to support our views respecting them, because, being systematically arranged as they are, they emphasised the chief features of the building as it then existed.

It is possible that some misapprehension exists as to the way these groups of arcadings were treated across the triforium passage-ways, between the outer and inner ranges of arches.

We do not for a moment imagine that the wide and narrow bays were treated exactly alike, either on their faces or across these passage-ways; but, on the contrary, we believe that the narrow bays, with their coupled wall shafts to support the roof principals, were treated as solid walls or piers some 8 or 9 feet wide on their faces, and to the full height from the triforium floor to the roof; and in the centres of their face-widths were made lower single-arched triforium openings below, and clerestory windows above, each about 3 feet 6 inches wide, and that narrow passage-ways were cut, as it were, through their solid jambs at their lower levels just as they are now to be seen in the lower passage-ways in the west walls of the central transepts, whilst in the wider bays the spaces were left quite open across the passage-ways from the floor to the crowns of the arches, or rather that the walls of the front and back arcadings were only united above the springers of these arches.

The treatment was indeed very much as that we may now see at the clerestory level—except that in place of the present vaulting shafts and the springers of the vault ribs, there were solid narrow bays with windows in their face-widths, of which the dark panels in the false roof are the remains.

These arched windows and archways with their solid jambs at each side of their openings had facings of shafts, and moulded arches on their front planes similar to and ranging with the other triforium and clerestory dressings right and left of them.

This was an arrangement doubtless made to give

depth to the window jambs and arched openings of the narrower bays, and for the more practical purpose of strengthening the walls and giving variety in the fenestration of their dressings, to break the otherwise monotonous forms which in our drawing was one of Mr. Codd's objections.

But these voids and solids across the passages between the arcades could not have been shown in the elevations of our drawings, but in perspective their value would have been readily realised.

It may perhaps be added here that the arches of the front arcade of the triforium which, although shown of the full height of those at the back of them in drawing fig. 5 of our published "Notes" in the Institute JOURNAL of the 26th of last November, could well have been a foot or eighteen inches lower, just as the arches of the upper arcades at the west side of the central transepts are about that much lower than the window-heads behind them. This is a fact that will probably go some way to meet Professor Lethaby's objection to the great height of these arcadings.

Now the treatment of the narrow bays on the inside faces of the choir walls, as above recited, has a considerable bearing upon the explanation to be given of the dark panels above the high vaults, which, Sir Charles tells us, could not have been windows because, he says, "they only penetrate the walls a *very few inches*"; and, "furthermore, these panels occur on the *inner plane* of the clerestory, so, if we accept Mr. Bond's deductions, we must believe the clerestory to have been constructed in a zigzag manner, the outer half being renewed at each buttress, and the inside half everywhere else"; and he also adds, "These panels are not even chamfered, and so can hardly have formed part of the internal plane of a clerestory in such a rich church as Lincoln."

One freely admits that it is almost impossible to be quite accurate in matters of this kind, owing to the difficulties there are in the way of taking measurements to verify one's observations, and it is especially difficult beneath this dark roof; and it is perhaps owing to these difficulties that Sir Charles is in error in both his facts, for instead of the panels being only a few inches deep they are by measurement 1 foot 6 inches deep. And instead of the panel occurring on the inner plane of the clerestory it is neither on the inner nor the outer plane.

It is not quite clear what surface Sir Charles means by the "inner plane." If he means the inner face of the outer wall just below the clerestory windows, then the face of the wall in which the panel is set is nearly 2 feet in front of it; but if he means the inner face of the main wall of the clerestory next the choir, then it is 10 or 11 inches back from it; so that in either case it cannot be said to be in the clerestory plane.

I will, however, for the purpose of the explanations I desire to make assume that the inside face of the main wall next the choir is what is called the "inner plane"; and tested from that face the thickness of the wall in which the panel is set is 3 feet 8 inches, whilst the same wall measured below the vaults is 4 feet 7 inches, or a difference of about 11 inches. There is thus a ledge or set-off left in the wall of this 11 inches following the lines of the vault on which the web of it rests; and it did occur to me when first examining this work that it was a provision made for the reception of the vault web when the the wall was built. But further investigation has resulted in what seems almost conclusive evidence that the choir walls from the triforium floor to the roof were originally built of a uniform thickness of 4 feet 7 inches throughout, and that the inner plane was continuous from one end of the choir to the other; that their surfaces were adorned with dressings of clustered shafts and moulded arches about 11 inches thick, similar in principle and in thickness to the arcading of the present clerestory, and that all it was necessary to do to provide this ledge for the support of the vault webs was to strip off and remove these detached dressings of shafts, &c., with their single order of arch mouldings in those spaces only which comprise the spandrils in the pockets of the vaults in the false roof; and that is what was probably done. There are indeed some rough places in the wall still remaining from where these arches were torn away, as it were, round the upper parts of the vaults that have never been refaced nor made good.

There was no such thing as zigzag building in a process of this kind, no "rebuilding of one part outside, and all the others everywhere else." There was in fact no rebuilding at all either inside or outside.

What was done comprised the filling up of one of the old window spaces in each bay with coupled panels of arcading striding the flying buttresses outside, and, of course, the making good of the inside face of the walls; but it was a process much simpler and considerably less expensive than was that of rebuilding the triforium arcade.

Sir Charles Nicholson in his allusion to these panels makes it clear that he noticed there were missing stones there; and it is very probable that we both scrutinised the same spot, because there was light passing through the hole in the wall from the outside which aided our inspection.

This light is admitted through a ventilating slit which is placed in the spandril between the arches of the coupled panels that stride the flying buttress, and it ranges with the other slits which still exist in the spandrils of all the other arches outside right and left of it, the whole of which are shown in Mr. Sharp's drawing, fig. 6, which accompanied our "Notes" in the Institute JOURNAL of last November.

It is to this slit that I desire to direct attention, for if it is still maintained that the coupled panels of the outside arcading just alluded to are part of the original work of St. Hugh and were built together

with the panels, how did it become necessary to remove these missing stones which were the crowning stones—the keys from all the arches of the inside panels which we say were the original clerestory windows—to admit of the insertion of these ventilating slits?

If these outside panels were not a later filling in of an original window but were built with and at the same time as the internal dark panels, then it becomes necessary to believe that the masons who built them first turned this inside arch, and immediately removed the crowning voussoirs to enable them to insert this ventilator, or they constructed the arch with the full knowledge that they must omit its key stones (and thus render the arch useless) to permit of the insertion of this slit.

Is it not a more reasonable alternative to suppose that these dark panels are the remains of original clerestory windows, as we have suggested; and that when the choir was vaulted, at a later date, they were no longer required for lighting purposes, and were therefore filled in at the outside to give support to the flying buttresses; and that the inside jambs were divested of their front dressings of shafts and moulded arches which, after their removal, left a ledge, or set off, of the 11 inches previously mentioned for the reception and support of the vault webs on the walls? And it would be at this time, and not earlier, that the crowning stones of all these inside panels were removed to give place to the slits.

May we not, therefore, summarise the various changes through which the choir of St. Hugh's cathedral passed during its construction as follows?

The builders having designed the church and laid in the foundations proceeded with the building of the outside walls, until they reached a height a little below the window-sills, and the main piers of the main arcades or some of them to about the same height. At this point, and for the first time, St. Hugh and his canons determined to vault the aisles, but not the choir. This change of purpose, no doubt, required that the outer walls should be strengthened, and this was done by adding the face arcade in front of that already built, and from this point upwards this double arcade was united above the crowns of the arches, and the whole was carried up as a solid outside wall to receive the aisle vaults.

It was too late, however, to enlarge the main piers of the choir, which were already built up, but the aisle vaults afforded a support for an increased thickness of the main walls from the triforium floor upward, which increased thickness was clearly the 1 foot 7 inches I have previously shown to exist there, and which now hangs over on the aisle vaults and is supported on the vault webs.

But it may not unreasonably be suggested that the thickening of these upper walls was made for the purpose of supporting high vaults at a future time, but when one reflects upon what a very shallow and meagre interior the choir would have presented had the walls been built up only 3 feet thick with more than half of that thickness taken up with the deeply-cut arcading and window jambs outside (matters which St. Hugh's architect seems never to have neglected), I am forced to the conclusion that the walls were thickened mainly for æsthetic reasons.

This increased thickness of the walls just enabled the builders to obtain their desire of making the double arcading in front of the triforium gallery, by which they would gain greater depth to their architecture and a finer and deeper gradation of light and shade, as well as increased variety of forms by which the æsthetic effect of the interior would be greatly enhanced.

But this double arcading never could have been made but for the thickening of the outer walls of the aisles, and the construction of the aisle vaults to give the additional support to it; neither could it ever have been contemplated at the first beginning of the building, or proper provision would have been made for its support.

Of this increased thickness, these main walls were built up in the shapes and forms already described quite up to the roof (which we think was a wooden one of open timbers, or more probably with a ceiling having sloping sides after the manner of that at Peterborough), and it is very likely the church remained in that condition until the fall of the tower in 1237 or 1240, whichever of the two historians is right as to the date.

Such a serious catastrophe as that of the fall of the tower, resulting as it did in damage to part of the choir roof and walls, and necessitating much rebuilding at all sides of the tower, would be a favourable opportunity for taking a comprehensive view of the choir as a whole, not merely of its structural condition but from an art or architectural point of view, and its want of proportion and harmony with the nave, which was probably only just then completed, was the primary motive for the drastic changes that were then made.

It does not, therefore, under such circumstances as these, seem unreasonable to conclude that it was at this time when it was first decided to vault the choir, and, strange as it may appear to some, to remodel its triforium also, so as to bring this part of the church into harmony with its better proportioned and more beautiful nave.

The character of the existing work rather indicates that this was done, for a large proportion of the arch mouldings of the present triforium arcades are of St. Hugh's type, and probably of his date also, and especially those of the outer order of arch mouldings which embraces the coupled inner arches of the arcades; but I am strongly of the impression that they were taken from the original triforium arcades and reinstated here. They are apparently of the same radius as they would require to be if

fixed in front of the pigeon holes, and there would, therefore, be no difficulty in re-using them in the new work, just as Essex re-used the moulded work from the old Chapter House in the building of his chapel on its site.

But the mouldings of the inner arches, although somewhat similar in character to those in the outer rim over them, seem somehow to differ in their general composition, and they are enriched with a stronger dog-tooth than one is accustomed to see in St. Hugh's early work; moreover, it may be seen that even in these inner arches some of the voussoirs are of different radii to the general lines of the arch in which they are set—that they are, in fact, what we builders technically term "crippled."

I may be wrong in these discriminations, but, perhaps, they are not unworthy of attention and examination.

With regard to Sir Charles Nicholson's hypothesis respecting the scaffold from which he thinks the vault of St. Hugh's choir was constructed, it is difficult to imagine that any mason would think of incurring the cost of working and dressing stone jambs and arches and obtaining and setting centres for them in walls nearly 2 feet thick, and making some of them 2 feet 6 inches and others 4 feet wide, and systematically arranging them in bays for the mere purpose of providing holes through which to pass scaffold poles for the support of a floor from which to construct vaults at some remote period of time; but there seems another and fatal objection to the theory—namely, that those pigeon holes, which are immediately behind the springers and conides of the present vault ribs, could not have been used for that purpose, for the simple reason that they would have been in the way of fixing the springers and conides which are the very foundations of the vault ribs.

And besides this, what need would there be to pass scaffold poles through these walls at all, even though a working floor was required to be fixed over the choir, seeing that the clerestory sills and passage-ways, in all some 2 feet 6 inches wide, would have afforded ample support for this floor on the main walls.

There is the further objection to it, that the central transept has pigeon holes along one side of it only, and therefore the floor (if one was ever fixed there) must have rested on the clerestory passage-way on the other side, and if it could have been supported on the passage-way of that side, why could it not have been as equally well-supported on all the other passage-ways and thus have rendered the pigeon holes useless for the purpose Sir Charles assigns to them.

But as it is now pretty generally admitted that all these high vaults were not constructed until some time after St. Hugh's cathedral was built, it would, of course, be necessary to erect a scaffolding with a floor from which to make the vaults whenever they were made, and on further examination I am induced to believe that the transformation of the triforium was made before the vaults, and immediately afterward the vaults were constructed; they were, in fact, continuous works, and the scaffold and floor from which the present vaults were made were probably supported on the present clerestory passage-ways. The bearers would have crossed the passage-ways and have passed into the walls at the back of them, where may still be seen small rectangular holes into which the ends of the horizontal bearers were probably inserted.

I had completed the foregoing comments prior to the 22nd of last month, and they were set up in type, but, owing to unforeseen circumstances, I was compelled to hold them over to a later issue of the JOURNAL. The delay has afforded me the opportunity and pleasure of reading the further remarks of Sir Charles Nicholson and the views of Mr. Bilson in the JOURNAL of the 6th inst.; and, although I have answered a large portion of Mr. Bilson's criticisms by anticipation, there are other points which he has raised that require further reply. First, as to the plan and the basis on which it was set out, the correctness of which he questions, because he thinks it does not exactly fit in with every feature and minute detail of the plan and dimensions he has himself taken. It is not surprising that we differ a little even in our measurements, for unless we both take them at the same points they are certain to vary in some respects, because there are no two things in St. Hugh's church exactly alike, as I have previously pointed out. For example, by measurement it is found that the distances from centre to centre of the main piers of the choir, and the distance from centre to centre of the vault shafts opposite to them in the choir aisles, vary in some instances considerably, as the following dimensions will show. They are measured from centre to centre, commencing at the first *whole* pier at the west end of the choir:—

South Aisle.	Centre to centre, Main Piers. Ft.	in.	Centre to centre, Vault Shafts Ft.	in.
Second bay from tower . .	21	5	22	10
Third „ „ „ . .	21	5	21	6
Fourth „ „ „ . .	21	6	21	5
	⅓) 64	4	⅓) 65	9
Average per bay . . .	21	5	21	11
North Aisle.				
Second bay from tower . .	21	1½	21	9
Third „ „ „ . .	20	9	21	2
Fourth „ „ „ . .	21	2	19	11
	⅓) 63	0½	⅓) 62	10
Average per bay . . .	21	0	20	11

It is thus shown that the total measurements of these three bays is 1 foot 3 inches longer on the south side than on the north side of the choir, and what is equally important is that the spaces between

the main piers on one side of the aisles and between the vault shafts opposite to them on the other side also vary.

But a much greater variation was made in the setting out of the central transepts in neglecting to place them at right angles to the axis of the choir. The variation is considerable, for by measurement I find that the space from east to west between the eastern and central transepts across the open yard immediately north of the choir aisle is about 37 feet, whilst that on the south side is 40 feet.

With such discrepancies and variations as these it was quite impossible for the builders to set the buttresses in positions that would centre with the piers and wall shafts and at the same time be at right angles to the walls to which they are attached, therefore the dotted lines on the north elevation (fig. 13) alluded to by Mr. Bilson will not be found to be so far wrong as he thinks. There is another fact which seems to indicate the difficulties the builders had in arranging their architecture to meet the change from wooden floors to stone vaults (even at this early stage of the work), and that is, the main buttress to the north wall of the aisle is not set midway between the two windows (previously noted by Mr. Bond in our "Notes" and also observed by Mr. Bilson), but it is set so close to one of them that the buttress had to be splayed back where it joins the wall to avoid burying the window shaft in the masonry of the buttress. Had vaulting been contemplated from the beginning of the building, even for the aisles, the work would have been set out for the buttress to centre with the vault shafts, the vault shafts with the main piers, and the windows with the centres of the bays in which they are placed, yet not one of these is centred with another.

But to return to the plan and the scheme of setting it out. I gather that the foreman, Davis, measured the width of the choir from the centre of the main pier next the eastern transepts, and that by adding the widths of the aisles to the width of the choir he made a total of 87 feet 2½ inches. But I am afraid Mr. Bilson had forgotten or had failed to notice that the north-east pier from which Davis measured was entirely rebuilt when the Angel choir was erected, as was also the bay west of it; that the pier was much enlarged northwards; and that a wall rib was added at the back of the main arch to give further support to the aisle vault on which the extra thickness of the triforium wall rests, as previously pointed out. This enlargement of the pier on the north side only altered the centre of the pier, and thereby increased the measurement across the choir.

There is only one pair of piers of St. Hugh's choir still remaining unaltered, and that is the third pair counting from the great tower, and I have found it safest to take test dimensions from them as far as possible.

From measurements thus taken at a little above the floor level, and from the centres of the original walls (exclusive of the added arcades) to centres of main piers, we found the south aisle to be 21 feet 3 inches, the centre aisle 43 feet 3 inches, and the north aisle 21 feet 5 inches, making a total of 85 feet 11 inches in all.

But it is not through small discrepancies in measurements of this kind that the puzzle of St. Hugh's work will be solved, but rather by taking a broad and comprehensive view of the whole work and the circumstances surrounding it. Personally I felt certain St. Hugh's church was set out and planned on a principle of some kind, and I therefore sought a basis for the setting out of the plan he made; and I venture to think that that indicated in the diagram (fig. 11) of our "Notes" of last November is a sound and reasonable suggestion of the method that was employed in setting out that great work. There may be other methods by which the same result can be attained, but at present none have been produced. If, however, the chevet can be planned and laid out on any other basis and from a single dimension (the width of the church) that will connect all the chief features of its construction as well as unite the centres of all the chapels, and fix their respective sizes, without the aid of a single other dimension or the assistance of a scale of measurements of any kind as this plan does, then no one will more heartily welcome its production than I shall.

There is, however, a small correction I desire to make in the description given of that diagram in the JOURNAL of last November, and that is, that the angle by which the centres of the chapels immediately right and left of the most eastern chapel should have been 56¼ instead of 55 degrees. The reason for the correction is that 56¼ degrees is an aliquot part of a circle of 360 degrees divided into 32 equal portions, as all the other angles employed in this setting out are, but the 55 degrees is not so divisible. It is a curious fact that, when developing St. Hugh's east end on the principle stated, the only points that did not fit in with the foundations marked by the incised lines on the pavement of the Angel choir were the centres of these two chapels; and it may be observed by anyone who will trouble to examine my diagram that the discrepancy is indicated upon it. With this correction, however, all the parts fit in almost exactly.

Then, as to the plan of the main piers of the choir, about which Mr. Bilson is so emphatic, I fear we must agree to differ respecting them. The inner faces of these piers on the choir side are practically on the same plane as the faces of the triforium walls above them, and the suggestion that because there are shafts on three of their faces there must necessarily have been a fourth on the other side is hypothetical, and I think improbable, because in the absence of vaulting there would have been nothing for the fourth to support, and

therefore no purpose for it to serve. But each of the three existing shafts is supporting a complete order of arch mouldings, and is therefore legitimately engaged. Besides this, it will be found on examination that the carving of the pier capitals is carried quite across the inner faces next the choir, and that the abaci follow the curved faces of the piers, unbroken and unrepaired (so far as one can see from the floor of the church). On the other hand, the capitals of the other three shafts which cluster round the piers on the other three faces have foliated carving interwinding and blending with the main capitals. The inference to be drawn therefore is, that when the high vaults and the vault shafts were constructed at a later time, the shafts were slightly hollowed out to pass the abaci and carving behind them rather than cut away those parts and mutilate the former work.

Then as to the bases of these vaulting shafts which are said to be bedded in the old Norman wall below the stall floors. There must be some mistake in this statement, because the Norman church ends under the middle pier of the choir arcade with an apsidal end, and, with the exception of that one pier on each side, not a bit of Norman wall either crosses or passes under any portion of the main arcade foundations; and besides this the rough walls into which these bases have been built are perfectly straight from west to east without a break in their lengths, except where these bases have been set; moreover, the two piers of St. Hugh's choir, which have never been altered, are nearly 20 feet outside the extremest eastern portion of the Norman apse. So far from these rough walls being of Norman construction the upper portions of them appear to have been added when the stone screens behind the stalls were constructed or when the stalls were made. But we have no desire to attach too much importance to these bases, for they are only one incident amongst many tending in the same direction. There are only three piers on each side of the choir, and a shaft base has been set to each of them below the floor, and if the incised lines marked out on the pavement of the north aisle represent the foundations of the apsidal end of the Norman church, as they are said to do, there is only one pier on each side that could possibly stand on any solid portion of the Norman church.

The shafts on the eastern face of the responds at the north-east and south-east corners of the choir aisles, next to the eastern transepts, are undoubtedly original, and we have never questioned it. But they were not constructed for vault shafts but for roof shafts, and they were of course continued down to the floor, as all the other roof shafts appear to have been where unobstructed by triforium arches or windows or other openings. There is this also to be said respecting these two shafts: they have been spliced and lengthened just below the abaci of the pier capitals to which they are attached, and just to the depth of the other capitals of the smaller shafts which cluster round the piers. They are both alike in this respect, and that fact rather suggests that they both had capitals prior to the vaulting of the transepts, and that they were converted into vaulting shafts when the vaults were constructed. That a change of some kind has been made respecting them is further indicated by the fact that the upper parts of these shafts above the abaci are less in diameter than those below them on which they stand. With regard to the choir transepts, therefore, there seems to me no difficulty whatever, and nothing that could prevent our suggestion that a former triforium existed before the present one was constructed.

The setting out of the architectural feature of the choir transepts no doubt differed from that of the choir, as in all cases one part of St. Hugh's work differed from another, but they had groupings of arches and windows in bays, those in the north transepts differing, I believe, from those in the south transept; but the alternating principle was carried through both transepts, and the lower or shorter openings in the minor bays were intended to heighten the expression of the larger groupings and to avoid an otherwise monotonous interior.

It was a system of arrangement which I am persuaded was made, and I am assisted in that belief by the original features still existing in the building itself, and I cannot but think that if rightly understood it goes far towards answering the adverse criticisms offered to our views.

Perhaps I am myself wholly responsible for the misapprehension which clearly exists respecting the original treatment of these triforium arcades, because all the arches in both the wide and narrow bays were shown in the internal elevation (fig. 5) which accompanied our "Notes" in the JOURNAL of last November to be of one height and on one level, whereas further investigation has convinced me that the single openings in the narrower bays were lower than the grouped openings in the wider bays, a difference made for the reason already given.

I must again refer to the panels in the dark roof, and the inside faces of the walls in which they are set. We are assured by Mr. Bilson that, although the apexes of the arches of the panels on the south side of the choir are on the same level as those of the clerestory windows between them, the springing of the arches is 1 foot 11½ inches lower than that of the windows: and he further says that the width of the panel is 3 feet 8 inches. Now the width of the main light of the clerestory window is 3 feet 6 inches or 3 feet 7 inches with the apex admitted to be level with those of the panels, and as the radius of the two arches appears to be identical, there seems to be an error somewhere here. Such a difference as 1 foot 11 inches in the height from the springing to the apexes of arches of practically

the same span could not fail to be very noticeable indeed, and yet to all appearances both the arches are of the same radius. Let anyone compare Mr. Bilson's own drawing of these panels (fig. 6) in the JOURNAL of the 6th inst., page 472, with Mr. Sharp's elevation of the clerestory windows, fig. 4, page 41, of the JOURNAL of the 26th of last November, and he will see how impossible it seems that such a difference could exist.

As to the inner faces of the walls surrounding the panels in the choir transepts, parts of which are built up in ashlar and other parts in rubble walling, it is a fact which had not escaped our notice, and it has been attended to in an earlier portion of this Paper in connection with the stripping of the dressings from the face of the original clerestory arcade to give place to the vaulting webs on the main walls; I am glad that Mr. Bilson also has directed attention to them, because these differences in the walling indicate that they were faced or built at different times, and they therefore strengthen our views on the subject. If vaulting was always intended, why were not all these walls above the vaults built up in rubble work, for if it is good for one place, it would surely be equally good for all similar places? The work would have been just as sound, and much cheaper, in rubble work than in ashlar; and being out of sight it would naturally have been done in rubble had these walls been built up after the vaults were turned. Why, in fact, did the builders put any ashlar work at all above these vaults but for the reasons we have given? Is it not more reasonably explained by the view we have taken of it—viz.: that after the removal of the face dressings from those portions of the clerestory arcades which are now in the pockets of the vaults in the false roof, and the cutting away of such portions of the solid masonry from the jambs and arches of the clerestory windows (now the panels) in the narrow bays to provide a support for the vault webs on the main walls, that such portions of the original ashlar work as remained uninjured by these operations would be retained in their unaltered condition; and that in the places where little making-good was necessary, it would be done in the same kind of work as that existing at each side of it? But where large surfaces required refacing or rebuilding, it would be done in rubble walling to save expense.

Of course no builder would be so foolish as to restore destroyed windows where no light was required, nor be so stupid as to make panels where no architectural features were required.

There was no need for either windows or panels, and therefore none were made where walls were rebuilt or refaced after the vaults were constructed, hence the absence of these features on the west side of the north-east transept.

The discussion thus far has been most satisfactory in every way, and it is a pleasure to find that those who have taken part in it have approached the subject in the true spirit of archæologists, whose one object is to seek the truth even, if necessary, at the expense of sentiment.

15*th May* 1911.

CORRESPONDENCE.

St. Paul's Bridge.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—Although somewhat late in the day I trust I may be permitted to draw attention to the alternative scheme which shows the approach to the bridge brought up to the transept of the Cathedral. This idea would be a very unfortunate one for architects to advocate, and if carried out would, I venture to think, probably bring no small ridicule upon the profession both on utilitarian as well as artistic grounds.

At the risk of appearing peculiar I would present some aspects of the case which favour the scheme proposed by the Corporation.

The main problem has been indisputably to secure as direct a route as practicable from Southwark through the centre of the City where no such communication at present exists. This being so, it surely stands to the credit of the Corporation that they have perceived that the opening out of St. Paul's upon the new thoroughfare should be a point to be secured in the scheme. So far from the Corporation being open to the accusation that they are not alive to the effects to be aimed at, their scheme rather indicates an appreciation of architectural dignity not always in evidence. Can the alternative scheme above referred to be said to be so superior architecturally as to afford any valid reason for diverting the route? Were this the case there might be some real excuse for involving an additional million of money which Mr. Domoney has said would be incurred.

We know that the police, who above all people understand best the management of traffic, hold that the cross traffic under the alternative scheme would have to be dealt with at two points instead of one, and it is not easy to see how the movement of the traffic could be controlled simultaneously at both points and congestion be avoided. The number of "collision points" of the right-angled crossing as compared with the non-continuous method of the alternative scheme is thus a question which it would be beside the subject to consider. The wriggle in the course of the traffic to get round two corners would be an inconvenience in itself, and drivers should be allowed as much uninterrupted view as possible.

As regards open space, that part of St. Paul's Churchyard on the south side of the choir is the most important one in connection with the Cathedral, and would, as shown on the Corporation plan,

afford a striking feature. On the alternative plan this space appears comparatively as *disjecta membra.*

With respect to the noble pile itself, it is a serious question if it would not show up more grandly than if the approach were brought up to the transept, indeed not much more than the transept would be visible from the approach so arranged. There is something impressive in itself when a building bursts upon the view standing on one side of the highway. This effect can be seen to-day where the west front of the Cathedral comes suddenly into view on one's entering the Churchyard from Paternoster Row.

The safety of St. Paul's, one might think, would be imperilled by the subways in connection with the approach road on the alternative scheme, as these would evidently skirt the south front of both choir and transept, instead of only passing the east end as shown by the Corporation scheme.

Then as to the bridge itself; this is shown on the alternative with three spans only, although, as the Corporation point out, the piers of a three-span bridge would be out of alignment with those of the other bridges which are in five spans. But what can be an adequate excuse for a skew bridge in such a position? The whole structure is tortured and undignified compared with a straight bridge, contrasting most unfavourably with any other bridge over the river in this respect.

But why all this divergence from a perfectly natural course? Because, forsooth, it is desired to reach the transept end of the Cathedral, an object not striven after in almost any cathedral that can be named. As if, indeed, the approach were principally for the sake of the Cathedral.

If almost entirely for something which is beyond, why bring it butt up against the Cathedral? As a consequence of this skew arrangement the blocks of buildings are cut through also on the skew, involving numerous difficult problems as to how their angles should be treated architecturally.

In this London of ours it is very questionable if the effect of vista, so appropriate in some cities, should be much striven after. To impose a lay out on any part of London which has vista for its object is a very doubtful proceeding, and in this case, where symmetry has never been much of an object, any effort at vistas is likely enough to lead to incongruities and exchange disorder for distortion.

Yours, &c.,
A Fellow.

Leicester Board of Guardians v. Trollope: The Dry-Rot Case.

Craven Street, Strand, W.C., 18th May 1911.

To the Editor, Journal R.I.B.A.,—

Dear Sir,—With reference to my letter on the above subject which appeared in the March issue of the Journal, I think it right to say that shortly after the trial, and without any suggestion on my part, the Contractors wrote to me that they extremely regretted that the Guardians had not seen their way to make them parties in the case and thus given them an opportunity of putting their views before the Court, that they had no desire to shelter themselves behind the Certificates or other legal defences, and desired to submit themselves to the arbitration of the President of the Institute of British Architects (or his nominee) to decide what they ought fairly to do in the matter irrespective of the question of legal liability on their part.

Negotiations followed in the course of which the Contractors have placed before me their version of the facts, and, though I cannot acquit them of blame in not obtaining my written authority for the deviation from the drawings and specification, I am satisfied that they acted in good faith under the mistaken belief that the clerk of the works had, in fact, obtained my previous sanction.

On my suggestion Mr. G. T. Hine, F.R.I.B.A., was selected as arbitrator, but it became unnecessary to proceed with a reference, as the Contractors and myself have since agreed as to what contribution they should make.

In view of the fact that the Contractors were not heard in the recent proceedings I shall be glad if you will give this letter the same publicity in our Journal as was given to my former letter.

I would add that there is one lesson that the members of our profession should learn from my experience in this matter, *i.e.*, the advisability of insisting that in all work undertaken the appointment of the clerk of the works should rest with the architect, as by the decision in this case the architect is in future made entirely responsible for the acts of the clerk of the works, no matter by whom appointed.—Yours faithfully,

John E. Trollope [*F.*].

The Edinburgh Architectural Association have recently issued their sixth volume of *Transactions*, comprising a record of the proceedings of the Association and a selection of the Papers read during the years 1907 and 1908. The principal contributions include "Thessalonica," by Professor Charles Gourlay; "The Church of Santa Sophia and the Imperial Mosques of Constantinople," by Ramsay Traquair; "Incongruity and Disfigurement," by Lord Kingsburgh, LL.D.; "An Architect in Greece," by Ramsay Traquair; "The Furnishings of a Mediæval Church," by the Right Rev. Bishop Dowden; "Sculpture as applied to Architecture," by Birnie Rhind, R.S.A.; "Reinforced Concrete and its Practical Application," by M. Kahn; "Progress of Stained Glass Art in Scotland," by Stephen Adam, F.S.A.Scot.; "Dalmatia," by F. Gordon Brown; "The Education of the Architect," by Gordon L. Wright; "Thoughts from a Retrospect," by Hippolyte J. Blanc, R.S.A.; "Lady Stair's House," by G. S. Aitken; "Trinity College Church," by A. L. MacGibbon.

9 Conduit Street, London, W., 27*th May* 1911.

CHRONICLE.

The Annual General Meeting: Discussion of the Annual Report.

At the Annual General Meeting held Monday, the 1st May, the Chairman, Mr. Alfred W. S. Cross, M.A.Cantab., *Vice-President*, having formally presented and moved the adoption of the Council's Annual Report, the motion was seconded by Mr. Henry T. Hare, *Hon. Secretary*, and the following discussion took place:—

Mr. Wm. Woodward [*F.*] said that this was the twenty-first year that he had had the pleasure of criticising or animadverting upon these Annual Reports. The procedure had done him a great deal of good, and he recommended the younger members to carry on the work. He was glad to see a larger gathering than had been usual at Annual Meetings. It had been his purpose to say that a small meeting meant that the Institute enjoyed the confidence of the members. Inferentially, therefore, the large gathering would mean that there was not so much confidence.—Reviewing the Report, Mr. Woodward noted that the Council had held twenty-five meetings this session in place of twenty-two during the last. He deeply regretted the large number of losses that the Institute had sustained; some were men of great eminence, some were architects in good practice who had devoted much of their time to the service of the Institute. The statistics of membership showed that this year there were twelve Fellows less, and seventy-eight Associates more. Adding Licentiates, there were now 3,626 architects on the roll of the Institute. Those who could look back twenty years would agree that these figures showed a great amount of good work, and were significant of the desire on the part of professional men to come within the fold of the Institute. He wished to call attention to a few words on page 77 with reference to the Registration Bill: "This scheme," the Report said, "together with the principles of the Registration Bill was laid before a Special General Meeting on 10th April, and after a long discussion was approved by large majorities." As the President was absent, he should like to take the opportunity of saying that it was unfair to the President to state that he in any way attempted to stop discussion. The exact contrary was the fact. From the very commencement, the President invited every one present to criticise the details to the fullest extent. If discussion was stopped, it was the meeting which stopped it, not the President. The Transactions of the Conference were referred to on page 77: but what was the use of Town Planning Conferences if the entrance to the Mall from Charing Cross was to remain in its present condition? It was almost impossible for the Institute to do more than it had done; but he thought some definite and decided steps should be taken to bring to the notice of the Government what was being done in Paris. The Municipality of that city had voted £36,000,000 sterling for its improvement, to occupy some years in the carrying out; yet London was not doing work which could be executed at the cost of little more than £1,000,000. The reference to Mr. John W. Simpson and Mr. Raymond Unwin all would agree with, and the Institute's thanks were due to those gentlemen for the enormous amount of work they had done for the Conference. With regard to St. Paul's Bridge, there was probably no more important subject before the public and the various learned Societies of Art and Science. He did not know whether there was any definite statement, but two years ago he understood that the Institute would further a competition in regard to St. Paul's Bridge. That, however, seemed to have passed by. The Institute was opposing the Corporation's Bill, but, speaking from the financial standpoint, he was glad to say that, although it had petitioned against the Bill, it had not instructed Counsel to appear on its behalf. To engage Counsel to oppose the measure would be to incur considerable expense, and the Institute was not in a position to spend several hundred pounds sterling for such a purpose. But a better letter than that which appeared in *The Times* of Saturday last from the President of the Institute he could not conceive, for time after time the Institute had been accused, when they had interfered, as they had a right to do, in matters of the kind, of doing so for the purpose of employing, or getting employed, some of the members of the Institute. He would quote one paragraph from the President's letter: "The views of the Royal Institute and the arguments for and against the Corporation's scheme have been laid before the citizens of London with admirable clearness and fairness by *The Times*, and by other newspapers, and the responsibility for any decision that is arrived at must now rest with Parliament and with the people of London as a whole." That was the position to take up, and not that which was indicated in the Report of the Art Standing Committee (page 82)—viz.: "The new St. Paul's Bridge was the subject of further discussion, when the Committee was strongly in favour of the Council presenting a memorial to the City Corporation urging the assistance of the most competent artistic and architectural advice in the preparation of the design." He knew that such words as these had in the past been interpreted by the Corporation and by other public bodies as an indication that the Royal Institute were seeking to import into those bodies the professional assistance of members of the Institute. Therefore he specially commended the passage he had quoted of the President's letter, because it simply said: "That is what we think you ought to do; we submit a design showing what ought to be done, in preference to what has been proposed, and we leave it to the good sense of the public to support those views." That was the attitude which should always be taken by the Institute, and not to endeavour to import its members professionally. On page 78 he noted that about one-third of the candidates in the Preliminary Examination were relegated to their studies. The same applied to about half those who came up for the Intermediate and for the Final and Special. Whether that proportion was due to the examinations being too severe, or whether it was because the candidates were not sufficiently advanced to pass them, he was not in a position to say. Coming

to the subject of the new premises on page 78, there was a reference to the Honorary Secretary, and he was sure they would all agree that Mr. Hare deserved the warmest thanks of the Institute for the excellence of the work he had carried out for them. Those alterations and additions had necessarily cost a lot of money; whether it was the result of an estimate, or whether it was day work or by a schedule, they were not informed; at all events, the money had been spent, and it was well spent. When reading the last paragraph, it occurred to him that words were used which were most useful when a man was endeavouring to convince his client that, after all, the expense had not been very great, and nothing had been thrown away. Then an item was mentioned which he did not clearly understand, the drainage system. Of course, drainage systems were very expensive, and the drainage system mentioned might have involved the expenditure of thousands, or it might be a sum which did not reach £50. On page 80 appeared a reference to the Royal Sanitary Institute and the Society for the Promotion of Roman Studies, and the thanks of the Institute were due to the gentlemen who had devoted so much time to those matters. Next came the grants. Notwithstanding the drastic manner in which the funds of the Institute had been dealt with, there was another object for the bestowal of their generosity—viz. the British School of Archæology, Egypt, £10. It might be said that it was a small sum, and was well spent; but yet it was a new item. Then there was five guineas to the Croydon Antiquities Preservation Society. That again was a small sum, but there were other places like Croydon, and if they were going to launch out in that way their funds would be further diminished. Then there was £10 to the Incorporated Joint Committee on Water Regulations. He would like to know what that Committee really was; the Institute seemed to be launching out fairly well; he had one or two things at Hampstead which he would like to bring to the Institute's notice! On page 81 occurred a Report of the Board of Architectural Education as to the Licentiates' Examination for the Fellowship. That was a very good idea, because although Licentiates came in to the Institute in great numbers, many of them were Licentiates because having started in business they could not afford to neglect that business to go in for the examination, and they could not be admitted as Fellows unless, in the opinion of the Council and those entitled to elect them, they were worthy of the position. The Report of the Art Standing Committee, in the second paragraph, very properly referred to the efforts to prevent building on the site near St. James's, Piccadilly. That was one of the successes of the Art Standing Committee, and he trusted that they would be able to still step in and do good work. With regard to the Church at Puddletown, he remembered last year that the Art Standing Committee regretted what took place there. But a letter appeared in *The Times* soon after, and he concluded that what had now been done could not be found fault with. The whole matter was taken up by the Society for the Preservation of Ancient Buildings—a body which it was sometimes said was a little faddy, and interfered when it need not do so. On page 83 was a reference to buildings faced with Portland stone being recently repaired by patent process. He did not wish to interfere with any patent process, or with the legitimate work of anybody, but with regard to the steam process for cleaning buildings, he recommended them not to indulge in it, for it opened the pores of the stone, and allowed the London atmosphere to get in, and that led to the premature decay of the stone. In the second paragraph on page 83 was a reference to what the Art Committee termed "minor improvements." Any little improvement which the Institute could secure was valuable, perhaps as much so as some of the larger matters. He quite agreed with that paragraph. There was also a reference to the importance of a better display of street names. That might seem to be a trifling matter, but it was really a very important one. What a man wanted to know was the name of the street; but instead of that he was knocked in the eye by the name of the Borough Council, which nobody wanted to know. Then there was an insufficiency throughout London of street tablets. One had only to go to the Tube stations to see the convenience which arose from the display of clear lettering. Further down was a reference to the unsatisfactory results of some of the new premises in the scheme of rebuilding Regent Street. Not only in regard to Regent Street, but in other parts of London also, the question asked the other day was a very pertinent one: "Is this architecture, or is it a stone quarry?" Many of the buildings were more like monuments of stone than domestic and business premises. London had properly left Paris behind for some time, but we might well go back to Paris to ask ourselves whether we were not overdoing it, whether that light architecture which distinguished the Baron Haussmann period could not be brought back to London. No matter how small a frontage might be, it seemed that there must be two huge columns carrying nothing. Something should be done to mitigate the style of heavy architecture which had now invaded many parts of London. There was a paragraph in the Art Committee's Report which opened up another opportunity of spending the Institute's money—namely, the decoration of their premises for the Coronation. He did not know what sort of decoration was proposed, but he felt sure that the members could show themselves as thoroughly loyal with the expenditure of a few pounds as by the expenditure of a large sum. Speaking with the utmost loyalty, he was sure that Royalty would not think any the less of the Institute if its scheme of decoration were not very expensive. On page 84 he noticed that the attendance of readers in the Reference Library was 366 less than last year, and the number of books issued on loan 118 less than last year. The number of tickets of admission to the Library was seventy-one against eighty-four. On page 85 it appeared that there were 332 less day attendances than last year in the Library, and 34 less attendances in the evening. All these differences were accounted for because the premises were occupied by the Town Planning Conference, and the alterations and repairs to the Institute premises were being carried out. Under those circumstances he thought the attendances kept up remarkably well. With regard to the Report of the Practice Standing Committee, there was a paragraph on page 86 showing that the Council had invited suggestions for Sessional Papers, and the Committee had suggested a Paper or Papers "On the Newer Responsibilities of Architects, and the Need of Defining such Responsibilities," with a view of publishing on behalf of members of the Institute a Guide to Practice. On the same page occurred this paragraph: "A considerable portion of the Committee's time is wasted owing to applications for advice coming before them with insufficient or *ex parte* information, and other matters are submitted by employers or solicitors without the knowledge of the architects concerned." There was a great deal of that at the Practice Committee. That Committee was not formed to give legal advice in view of possible litigation, but to give information on questions of practice. There were many cases where solicitors and

others were simply endeavouring to get the opinion of the Practice Committee to use it in the litigation which ensued. But he hoped the Committee would, as it had done in the last few years, resist such demands. With regard to the Report of the Science Standing Committee, he would not occupy the time of the meeting, except to say that those who read it would agree that it represented splendid work, really useful practical work. And the little brochure on Paints would also be most useful. Coming to the income and expenditure, without going critically into the figures, he would observe that the Institute had spent £1,228 more than last year, and it had overdrawn at the Bank more than £6,000, when they only had last year £253. With regard to the Balance Sheet, there was a matter on which he would like some explanation. There was a nett loss on realisation of £2,314. That had been knocked off. There were the expenses of the purchase of A.U.C. shares, £1,350. He did not know what those expenses were; they might be commissions for shares. It seemed a large sum, but no doubt it could be thoroughly explained. The Report of the Auditors would be found on page 92, and it would be gathered that the Council had been rather free in their expenditure; but the Meeting would agree that the Institute had had value for its money. It had arrived nearly at the end of its expenditure, and for the next few years they must draw in their horns and be careful, so that they should not get into financial trouble. With regard to the paragraph referring to the Honorary Associates, he did not know whether the proposal was to let them pay nothing, or to let the amount be increased or reduced. In conclusion he would like to say a few words with reference to the staff. On the occasions of his remarks on the Annual Report, he had had the satisfaction, which was increased that night, of referring to the staff. It would be agreed that the Secretary had fallen into line with the practice of the Institute in a very remarkable manner. He (Mr. Woodward), and his hearers, had had occasion to consult him on many matters, and would have found not only that he was ready and courteous in giving what was required, but that he possessed the requisite knowledge. That possession of knowledge had only been achieved by hard work. Then he came to their old friend Mr. Tayler, who was always ready to give information, and he trusted he would be spared to be with them for many years. Then there was their old friend Mr. Dircks, who, no matter what time one called in the Library, was ready to give the benefit of his knowledge. It was hoped that he would be for many years in the Institute, and in the enjoyment of the health which he now possessed. Then it was evident that the Institute could not go on without its editorial part. That was a very important part of the work in this or any other institution. Mr. Northover possessed all the elegance of expression of the Editor; he would correct their proofs for them, or make suggestions in the contributions which were most useful. And he was not only expeditious, but was always ready and willing to assist in every possible way. With regard to the junior portion of the staff: they were all coming on, and they must necessarily take the places of their seniors in due time. He was sure his hearers would agree that the junior staff of the Institute was of the kind that they should congratulate themselves on having; and it was to be hoped that they would follow in the footsteps of the men whom they would some day succeed. Finally, with regard to the work of their Honorary Secretary—and he was not now referring to it in connection with the alterations and additions to their premises—he knew that the work of the Honorary Secretary was not the sinecure which some people thought it was; and the Institute's thanks were due to Mr. Hare for his courtesy, and the amount of time which he gave to the Institute's work. He hoped that if he (the speaker) were not one of the five hundred to be called away to "another place" in the interval, he would have another opportunity next year of saying a few words on the subject of the Annual Report.

Mr. W. R. Davidge [*A.*] said that they owed Mr. Woodward a debt of gratitude for putting so sweetly the criticisms which he had to make year after year; and all present would associate themselves with him in expressing appreciation of the work which had been done for them by the officers and Council of the Institute. There was, however, a little criticism which he (the speaker) had had to put before. He understood this was the twenty-first time Mr. Woodward had spoken on the Annual Report. But was it wise that the criticism should always come from one particular quarter? That criticism had glossed over many things which required criticism, but by seizing hold of small things like five-guinea and ten-guinea items, it had skilfully passed over some larger expenditures which had been incurred in other directions, and which the Annual Meeting afforded the only opportunity of having properly explained. If the Auditors were present, they should have the opportunity of giving the Meeting their opinion, quite apart from the signed declaration appended to the figures; some opinion as to the particular points which they considered might need the attention of the general body. It was evident that the deficit which the Institute had this year—and one could not expect anything else—was a growing deficit with a tremendously increased expenditure on various matters, which possibly they had not the time or the opportunity to deal with. He would like to hear some opinion as to whether the expenditure of £2,060 for the Town Planning Conference was, on the whole, reasonably incurred. It would be noticed that in this year's accounts only £560 appeared. In the estimate for next year the amount set down for the Conference was £1,500. He did not wish to say that the money was not well spent; the Town Planning Conference was one of the best things the Institute had ever done; but that expenditure was one which needed careful watching; and he would like to hear the personal assurance of the Auditors that the amount had been gone into item by item, and that they had satisfied themselves that the amount was a reasonable one. There were also several other large items which should be drawn attention to. One was that the income from the Examinations was a very large one, amounting to over £1,500 per annum; this amount was drawn from the younger men coming into the Institute. Without that sum the whole of the financial work of the Institute would fall to the ground. Therefore, on that ground alone, the Council should give careful attention to anything that was put forward by the younger men. There were one or two other points, which probably the Auditors would explain presently. The Honorary Auditors had drawn attention in the Report to the disposal of the capital of the Charitable Fund and of the Travelling Fund. That was a £2,300 item which required drawing attention to. Mr. Woodward had skilfully called attention to something which appeared as an asset—namely, the expenses *re* the purchase of Architectural Union Shares, £1,350. It seemed peculiar that expenses should appear as an asset. The additional, and some might say unnecessary, loss of £2,300 on the realisation of the Institute shares all would deeply regret. He thought he had said enough to draw attention to the weakness which must always come from one particular form of criticism from one source; and he was sure

Mr. Woodward would agree with him in what he said. He did not see any report in the print of any definite Finance Committee; it did not appear as one, and he would like to know if there was a Finance Committee.

THE SECRETARY: The names of the Finance Committee are in the *Kalendar*.

Mr. DAVIDGE, continuing, said that the Auditors would probably like to have the opportunity of laying before the Meeting the real conditions of the Institute finances. In conclusion he need do no more than express his own personal appreciation of the work which had been done on behalf of the Institute by so many of its officers and by the Council.

Mr. C. H. BRODIE [*F.*] protested against the Auditors being asked to do what it was well known would be an impertinent thing for them to do; it was no part of the duty of an auditor to express his opinion on the policy of that or any other body.

Mr. DAVIDGE: Not on the policy, but on a question of actual expenditure.

Mr. JOHN HUDSON [*F.*], Hon. Auditor, said he did not remember all the items in the account, but he and his co-Auditor went through all the items, and they were perfectly correct, in accordance with the vouchers which were presented. All the charges seemed reasonable, but they did think it was a large expenditure on the Town Planning Conference. But if it was going to do the good which everybody seemed to expect, the expenditure was satisfactory.

Mr. A. NEEDHAM WILSON. [*A.*], Member of the Finance Committee: I may say, for the information of Mr. Davidge, that there is a Finance Committee, and that every item of expenditure is closely scrutinised. Nothing is passed without the most careful examination, even before it goes into the hands of the Council.

Mr. HERBERT SHEPHERD [*A.*] said he did not think it possible that either of the Honorary Auditors, both personal friends of his, could be expected to carry the exact figures in their minds. He thanked Mr. Woodward for his excellent and kindly criticism of the Report, and more especially for his invitation to junior members to discuss these Annual Reports. When Mr. Woodward ceased to discuss the Reports, he hoped that he himself would be in the sere and yellow leaf. With reference to the absence of the President, he was certain he would be expressing the opinion of the Meeting when he said that Mr. Stokes, at the Meeting on 10th April, carried out in an absolutely fair and just manner the duties of Chairman of the Meeting. He understood the President was absent that evening through ill-health, and he thought it would be a courteous and proper act for them to ask the Honorary Secretary to write to him from the Annual General Meeting expressing their regret at his absence owing to ill-health, and the hope that he would soon be well and back amongst them again.

THE CHAIRMAN thanked Mr. Shepherd for the suggestion, and the proposal was put to the Meeting, and carried.

Mr. SHEPHERD, continuing, said he hoped it would not be considered remiss on his part, after the ample criticism of Mr. Woodward, to offer some further remarks on their Council's Report. First, with regard to Licentiates on page 76, referring to the Meetings in the provinces, he thought Mr. Cross's name should come before Mr. Hubbard's.

Mr. HUBBARD agreed, as the burden and heat of the day was certainly borne by Mr. Cross.

Mr. SHEPHERD: In the second paragraph on page 77 the Report said: "Before the expiry of the twelve months provisionally fixed by the Supplemental Charter some 1,200 Licentiates were elected." He objected to the Council having inserted the word "provisionally" there, though it would occupy him a long time in explaining why; it was a direct alteration of the principles which were accepted by the Institute four years ago. It was never provisionally fixed; it was fixed definitely by the Institute that elections to the class of Licentiates should cease at the end of twelve months. He therefore suggested the deletion of the word "provisionally."

THE CHAIRMAN accepted the amendment.

Mr. SHEPHERD: In the bottom paragraph of page 77 the Report said: "Serious negotiations were then entered upon, and a scheme was prepared by the Councils of the two bodies which provided for the winding-up of the Society of Architects and for the election of its members into the various classes of membership of the Royal Institute." He regretted that it should have been put in by the Council in that way, it was an obvious misstatement, and a very serious one, because if the Meeting passed the Report as being correct, it might lead the Institute into some question in the future with regard to the wording; he had recently had an instance of the fact that it was the actual wording of a document which was adhered to. The sentence should be corrected so as to read "the election of its members into the various classes of membership and Licentiateship of the Royal Institute."

THE CHAIRMAN accepted the amendment.

Mr. SHEPHERD: On page 77 the Report said: "This scheme together with the principles of the Registration Bill was laid before a Special General Meeting on April 10th, and after a long discussion was approved by large majorities." He declined to accept the words: "This scheme together with." The scheme had never been discussed at all; nor had there been a long discussion upon it. Two Fellows, one a member of the Council (Mr. Lanchester) and the other a member of the Council last Session (Mr. Tanner), had got up and proposed that the Meeting should take those particular proposals *en bloc*. It was by the action of these two Fellows that their President was placed in a most invidious position, for Mr. Stokes had done his duty as Chairman of the Meeting, and had to put the resolution given to him, in spite of his own opening statement on behalf of the Council.

THE CHAIRMAN: I will apologise for members of the Council. Will Mr. Shepherd say how he would like the paragraph amended?

Mr. SHEPHERD proposed that the words "The scheme together with" should be struck out, and after the words "April 10th" the following should be inserted: "And your Council regret that proper and adequate notice was not given to all members." He himself did not get his until late on Tuesday, and to ask one to consider the matter in four days when as many weeks would be all too short a time was absurd. That raised a very important point, because it might be found that the Meeting was not called in the statutory time. By-law 65 provided that notice of a Special General Meeting must be served on all members of the Institute entitled to be present at least seven days before the Meeting. That was, he believed, never done. It was an important omission, and, legally, might be found to invalidate the Meeting.

THE SECRETARY, at the request of the CHAIRMAN, read the passage from By-law 38 which governs the issue of notices—viz.: "Any notice shall be deemed to have been duly sent to a Member or Licentiate when such notice, or the JOURNAL in which it is sent or printed, addressed to the last address of the Member or Licentiate appearing in the *Kalendar* of the Royal Institute, has been put into the post or otherwise despatched." The time of the notice, continued the Secretary, dated from the despatch of the notice, not

from its receipt by the members. The notice was despatched seven days and five hours prior to the Meeting.

Mr. K. GAMMELL [*A.*] said he had taken legal opinion, which stated that Sunday was a *dies non.* He drew the attention of the Meeting to that point, which was a very important one.

Mr. SHEPHERD said he was satisfied with having raised the point about the notice, and he would leave it in the hands of the Chairman. In that connection, there seemed to have been, according to the general spirit of the age, a tendency on the part of their Council to "hustle" the thing through. The course of action which the Council had seen proper to pursue in relation to the so-called Incorporation Scheme reminded him very much of Kipling's definition of hustling, which is "half-doing your appointed job and applauding your own slapdasherie for as long a time as would enable you to finish off two clean pieces of work." With regard to the Town Planning Conference he would only second Mr. Woodward's remarks. The Institute had done itself no little honour by electing Mr. Raymond Unwin a Fellow. He thought the profession would ultimately reap great advantage from the Town Planning Conference, and that the standing of architecture would be raised in the minds of the public owing to the patience and care which Mr. Simpson and Mr. Unwin had given to it, and by permitting the public as well as members of the Conference to see the admirable and extraordinary Exhibition at the Royal Academy. With regard to Architectural Copyright, he was interested in that subject—but why "Copyright Amendment Bill"? Was not the proper title "The Copyright Bill"?

THE CHAIRMAN agreed that the word "Amendment" should be deleted.

Mr. SHEPHERD, continuing, said there was reason to hope that architectural copyright would become an established fact; and it would be helpful to the whole profession and many men who had not large practices. Mr. Woodward, in referring to St. Paul's Bridge, said it was a matter which affected Greater London. Mr. Woodward carried his "blushing honours thick upon him," but he would like to hear somebody suggest at the Hampstead Borough Council that Clapham, for instance, should interfere in some way with Hampstead's authority. It was to some, though not to a large extent, a matter which affected Greater London, but principally had to do with one of the most ancient Corporations in the world—the City of London. With regard to the Examinations, Mr. Woodward could rest assured that those candidates who failed were properly relegated. With regard to the Prizes and Studentships, he wished to raise the point that after thirty-five or forty students had sent in designs, because one competitor had not fulfilled the conditions, the Soane Medallion was not awarded. Under similar circumstances in future he suggested the man who came second should be awarded the prize. The first man in this case was disqualified for good reasons, but he thought some extra premium should have been given to those who were at the top of the tree. With regard to new allied Societies, it was a subject for congratulation that their Colonial brethren were coming forward to join their interests with those of the Royal Institute. But, from the corporate point of view, he thought one should be careful not to be too eager to put into the Presidential chair of allied Societies non-corporate members of the Royal Institute. He had, of course, nothing to say against any member of any allied Society; but there were the West Australian, the Transvaal, the New South Wales, and the Royal Victorian Institute of Architects, all presided over by non-members of the Royal Institute. He did not doubt that the Presidents of those Societies were the very best men they could possibly have. He suggested and thought it would be right for the Council of the Institute, as a compliment to our Colonial brethren, when a man was President of a Society which had just come into alliance with them, they should straightway make him a Fellow, provided he fulfilled the conditions of Fellowship. While on the subject of allied Societies, he would call attention to a mistake in the *Kalendar*, showing that the reference had not been revised. On page 261, "By-laws 77-81" should be "By-laws 78-82." With regard to the Board of Professional Defence, the Report said: "Many architects have applied for and received advice on questions of principle and practice." He suggested that it would be helpful to practitioners if it were possible, without mentioning names, and after a proper interval of time, to give a *résumé* of the questions which arose in general practice, so that members might know what the Board of Professional Defence had really decided on those points. He did not agree with Mr. Woodward's remark as to the grant to the Croydon Antiquities Preservation Society of five guineas; he (the speaker) considered that it was money well spent, because there was an attempt to destroy one of the few remaining architectural beauties in Croydon. Another matter was the question of the Licentiates. He was sorry to call the attention of the Meeting to the delinquencies of Fellows on the Council, but it was a fact that the Royal Institute, in December last, passed a special resolution with regard to those gentlemen having necessarily to put the word "Licentiate" in front of the letters "R.I.B.A." as stated in Clause I. of the Supplemental Charter. He had in his hands, however, numbers of the *Builder* and *Builders' Journal*, in which a Licentiate of the Institute had done that very thing in spite of the letter. Had the letter been sent to each one of those gentlemen last year?

THE CHAIRMAN: Yes, the new declaration was sent to every Licentiate.

Mr. SHEPHERD: Is it in order to alter the approved form of declaration without first obtaining the sanction of the Privy Council?

THE CHAIRMAN: I am afraid not.

Mr. SHEPHERD said he was afraid so too, but it had been done, and he did not know what was going to happen to the Council in consequence. He thought the Fellows of the Institute, particularly the members of the Council, should endeavour to persuade the Licentiates to fulfil the conditions of the Institute Charter and the Declaration which they had signed. In regard to the bequest under the will of the late Henry Jarvis, the Institute was to be congratulated on receiving such a fine legacy. He noticed in the last paragraph of the Science Standing Committee's Report that it was proposed that plumbers should put a little badge on every piece of plumbing work they did, so that when the new legislation came in architects would have to look out for themselves.

Mr. STATHAM said an extraordinary argument was used about the award of prizes. A. was awarded a first prize for excellence in work, and B. was second. It was afterwards found that A. had done his work in a way which officially deprived him of the right to the prize. It was suggested that that raised B.'s work to a higher level. But it did not do anything of the kind. B.'s work was still worthy of only the second place.

Mr. SHEPHERD rejoined that if 40 men went in for a competition, and the man placed first was disqualified, it was hard lines on the other 39 men if none of them got the job.

Mr. G. Leonard Elkington [*A.*] asked whether the numbers of the "large majorities" mentioned on page 77 could be given to the Meeting.

Mr. F. R. Hiorns [*A.*] drew attention to the fact that the Report said that if the scheme was approved by the general body of the Society of Architects it would be proceeded with. Did not that take it for granted that the confirmatory vote of that Meeting would be given to the proceedings of 10th April? It was discourteous to members of the Institute to make assumptions of that kind. It should have been put in some other way.

The Chairman: Yes, it might have been differently worded.

Mr. Hiorns, continuing, said that with regard to St. Paul's Bridge, he saw something in the speech of counsel presenting the case for the City before the House of Commons Committee to the effect that the Institute was not represented by counsel. Was that correct?

The Chairman: That is correct; though personally I think the Institute ought to be so represented.

Mr. Hiorns thought that was unfortunate, and hoped that every effort would be made to ensure that the Institute's view on that question was placed before the Committee in the most effective way.

Mr. A. T. Bolton [*F.*], referring to St. Paul's Bridge, said that the President had distinguished the action of the Institute in regard to that Bridge. The Institute had not recommended an alternative scheme, but had recommended that what was done should be done under the advice of an architect, and that that architect should be appointed at the same time as the engineer and surveyor to consider the scheme. It was very important that the Institute should adhere to that view, because the matter had not been discussed at the Art Committee in any fulness, nor by the General Body of the Institute. And while it might be agreed that the Bridge ought to be considered in that way, it was another thing for the Institute to associate itself with alternative schemes which others had put forward. Most of them were Londoners and had taken an interest in St. Paul's as long as they could remember, and the question as to how the Bridge should come was one on which there was much to be said. There were those who suggested that the line of the proposed Bridge was hopelessly bad, but surely there was a good deal to be said on the other side, because St. Paul's was not a classical rotunda, but a design of united Gothic and Classic ideals, and it was a building of which the "fore" and "aft" views were perhaps more important than the direct view, at any rate on the flank. If there was anything in these considerations, it was a pity that the opposition had taken the form it had, as there was a great deal to be said for the position in which it was proposed to put the Bridge. He remembered when St. Paul's School was pulled down, and he recollected the letters which were written to *The Times* before those warehouses were built at the east end of St. Paul's. There was a strong claim made that the space should be left open. But practical men said it was ridiculous: that it was only a sightseers' question. Those were the very warehouses which it was now proposed to pull down to make this road, on the ground of necessity. The new Bridge would give a magnificent view of St. Paul's from that quarter. It was important that architects as a body should not lead the public to suppose that the only schemes they could put forward were those which involved enormous expenditure. If they looked at the site on the ground it would be seen that if the Bridge were brought up to the transept as proposed, it would mean rebuilding the whole of that side of St. Paul's Churchyard. It could not be done otherwise, because the line must be got parallel with the Church itself, or follow some regular curve. If it were possible to rebuild the whole Churchyard, architects would be delighted; but how was it possible? Therefore there was great wisdom in the fact that the Institute's advice was not an alternative scheme, but the sound argument that the question should be considered by the surveyor, engineer, and architect in conjunction.

The Chairman reminded members that there was another Meeting to get through, and therefore he would move the adoption of the Report.

Mr. Elkington repeated his request for the numbers of the large majorities mentioned on page 77.

The Secretary replied that the resolution to take *en bloc* the proposals relating to the Society of Architects was carried by 61 against 39. The resolution with reference to the By-laws was carried, but the numbers were not declared. He believed they were about the same.

Mr. Elkington said he thought there was a good deal of misunderstanding as to the voting for the revision of the by-laws, and asked whether it was clear that the Associates had or had not the power of voting.

The Chairman: Associates have no power to vote on the By-laws. So far as I know, the majority at the previous Meeting was a valid majority.

The Secretary: The President announced before the vote was taken that only Fellows were to vote.

Mr. W. S. Tucker [*A.*]: How many were present at the Meeting?

The Secretary: A very large number; nearly fifty Fellows, besides Associates.

Mr. Tucker: How could those figures be arrived at if there were only 50 Fellows present?

The Chairman: Associates could vote on the first resolution, but not on the second.

Mr. Henry T. Hare (Hon. Secretary) thanked Mr. Woodward for the kind way in which he had referred to him, and asked leave to explain one or two of the points raised concerning the alterations of the premises. The whole of the work was carried out by Messrs. Holloway at prime cost, and their books and accounts were examined by a competent surveyor. With regard to the scheme of Coronation decoration, he assured members that there was no intention of being extravagant; the idea was to do something simple and inexpensive, while having everything in good taste.

A Member: I suggest that Messrs. Holloway be thanked by the Institute for doing the work at prime cost.

Mr. Hare: Messrs. Holloway have already been thanked on behalf of the Institute.

The Report was then put and carried.

The Chairman announced that that concluded the business of the Annual General Meeting, and that the Special General Meeting would now be proceeded with.

Mr. Herbert Shepherd remarked that the list of attendances at the Meetings of the Council and Standing Committees had not been submitted.

The Chairman replied that the usual course had been adopted, and that the list of attendances would be issued to members with the Supplement.

Mr. Shepherd pointed out that under By-law 64 the list of attendances should be submitted to the Annual General Meeting, and that as this did not appear to be forthcoming he did not know what was going to happen to the Council in consequence, or whether the Chairman could conclude the Annual General Meeting without it.

Special General Meeting, 1st May: Alteration of By-laws.

The Special General Meeting called by the Council to confirm the Resolution passed at the Special General Meeting held 10th April respecting proposed amendments in By-laws 27 and 32 followed the Annual General Meeting above reported.

The Chairman having put the Minutes of the Special General Meeting held on the 10th April, which had already been published in the Journal,

Mr. K. Gammell asked if he was right in understanding that the Council's intention in obtaining a vote confirmatory of these Minutes would be taken as confirmative of the resolutions recorded in those Minutes?

The Chairman: The signing of the Minutes is only evidence that they are correctly recorded.

Mr. W. R. Davidge [*A.*] called attention to an error in the date on page 439, where 1912 should be 1920, and the result of a discussion at this point was that the Secretary was requested to read the Minutes to the Meeting *in extenso* from the Minute-book, and the following amendments were ordered to be made:—

Omit the two paragraphs following the line "After a suitable preamble."

Clause 3 of the "General Principles," after the word "Licentiates" in the 4th line, to read as follows: "of the Royal Institute of British Architects or to architectural membership of one of the aforesaid Royal Academies in manner provided by the Royal Charters."

Clause 4: Alter the date "1912" to "1920."

It was also resolved that the words "by large majorities" at the end of the 5th paragraph on p. 440 be omitted, and that the words "after discussion" be inserted after the words "notice-paper" in the 2nd line of the 8th paragraph.

Mr. Davidge entered a protest against the use in the first paragraph of the Minutes of the phrase "the future of the Society of Architects," pointing out that the words "the incorporation of the Society of Architects" were used in the notice convening the Meeting. Mr. Davidge further contended that something should be entered on the Minutes to the effect that there was considerable protest as to the proposals relating to the Society of Architects being put *en bloc*. Some record of that protest should be made, for certainly Mr. Gammell, at any rate, made a very strong protest.

Mr. Gammell said he would like to go further and say that whilst admitting it was not the Chairman's fault that the resolution had to be put, still at the beginning of the Meeting the President gave him his personal assurance that when the time arrived the Meeting would be given the opportunity of a detailed discussion. That, however, was not granted. Therefore the putting of those proposals *en bloc* was an absolute breach of confidence.

Mr. Davidge suggested the insertion of the words "The resolution was protested against by Mr. Gammell."

The Chairman said that if Mr. Gammell wished for that distinction he could have it.

Mr. Albert W. Moore [*F.*] asked whether it was not the fact that a shorthand writer was present and took a verbatim note of the whole of the proceedings. That was important, because there must be considerable personal feeling and difference of idea as to what took place, particularly on the question of incorporation.

The Secretary: Yes, we have a verbatim report.

Mr. Moore objected to the Minutes being further altered without reference to the verbatim report.

Mr. G. Leonard Elkington [*A.*] asked that a record should be made of the objections urged, particularly as to the alteration in the object for which the Meeting was summoned. A Special General Meeting was summoned for a specific purpose, yet that specific purpose was altered by the Chairman with the concurrence of the Meeting. He protested at the time that the Meeting was out of order in consequence of this step, and he therefore asked that a note should now be taken of his objection to the process.

Mr. George Hubbard [*F.*]: Has legal opinion been taken on the point?

The Secretary: The Institute Solicitor, who has been consulted, says that the point is a triviality and that no attention need be paid to it.

The Chairman: We cannot go beyond the opinion of our legal advisers.

Mr. Gammell: I have taken legal opinion, and it is absolutely at variance with that.

The Minutes as amended were then put for confirmation and agreed to.

The Chairman having stated the object of the Meeting, Mr. Gammell asked and obtained leave to address the Meeting on the subject of the resolution respecting the incorporation of the Society of Architects. He explained that he proposed on this occasion to read his remarks, though this was a course entirely repugnant to his feelings, for in his opinion a man was unworthy to act as spokesman who required for his purpose any other aid than the briefest of notes. By committing his remarks to writing he would be able, should questions arise in the future, to refute or substantiate any point that might be raised. This course had been forced upon him owing to the Council's refusal, in the face of at least two requests from members, to print the report of the discussion on 10th April, a procedure the legality of which was contested by these members.

Mr. Gammell then read his remarks, the substance of which was as follows:—They were met, he said, to confirm, or not to confirm, certain resolutions passed by the hastily summoned Meeting of the 10th of April last. With the first resolution, that concerning the Bill for the Registration of Architects, he was in complete agreement, but with the second resolution, that relating to the incorporation of the Society of Architects, he, in common with many others, found himself in the greatest possible antagonism—not from any animus towards a body of fellow-workers whom every sincere well-wisher of the Institute would see the need of gathering into their ranks if Registration was to go forward with any chance of success, but because of that spirit of impatience and disinclination in the Council to grant opportunity for that which constitutes not only a reasonable request, but which was also in the best interests of the Institute—viz., reasonable discussion to those holding views other than their own. He had always been in favour of the absorption of the Society of Architects within their ranks—provided that in the process of such absorption no single member or class of the Institute would suffer by such absorption. He and those who thought with him were present that evening to vote an absolute negative to the proposal under consideration, because, owing to the unfortunate ruling from the Chair on the 10th of April, that was the only course left to them to secure reasonable discussion of the important bargain (for one or other of the two bodies concerned) they were asked to ratify. They had it from the Chair that this amalgamation was something vastly in the interests of the Institute when the principle of Registration was involved. He flattered himself that where his interests were at stake it was not very difficult to convince him, and by so doing to secure his instant and hearty support. Further, he hazarded the opinion that this statement could be held to apply to exactly 100 per cent. of his fellow-members. Granting the great advantages to members

of the Institute of an amalgamation with the Society of Architects (such as was claimed for this scheme), he challenged the Council to prove the *bona-fide* nature of their professions of 10th April, that it was their earnest desire that the matter should not be hurried through, by affording information where fuller information is sought, by granting reasonable discussion where such is asked for, and above all by forthwith adopting a line of conduct that would not turn out to be an absolute contradiction of their pledged word. Could not the Council even at this the eleventh hour so arrange matters as to make such a desirable state of things possible? But whilst he was present that evening for anything rather than to fight the Council's battles, yet, such was the enmeshing nature of the technicalities governing their business procedings, he apprehended that however much the Council might desire it, they were powerless to grant any concession to popular clamour; they must stick to their guns, and retrieve the day—or (as he firmly believed would be the case when the amendment he was shortly to move was put to the vote) be utterly defeated. Before, however, that stage was reached, it would be well for the Meeting carefully to consider the reasons which could be adduced against the adoption of the action he had suggested. First, take that which he would term Stultification of Individual Action—he alluded to the fact that this scheme emanated from a Council the members of which were elected by the General Body. His answer to that was, Councils were no more infallible than individuals, and if this bargain was of such a desirable kind as they were given to believe, where lay the hardship in proving it? As a second reason, take what he would term the Wasteful—that is to say, the possibility of all the time and labour spent in carrying through the negotiations going for naught. His answer was again, If the Council's bargain was of such a desirable kind, wherein lay the hardship in proving it? As a third reason, take what he would term the Philanthropic, such as was suggested from the Chair on the 10th April, which involved an appeal for the making of sacrifices for the benefit of posterity. What of this exquisitely Quixotic suggestion? Granted they made the sacrifices asked for, what guarantee had they that posterity would reap in future advantage, what they now sowed in sacrifice? Who could guarantee that this desire for Registration would be accepted by Parliament and passed into law? Whilst there was yet time to influence the Meeting by reasoned argument, he felt it to be his duty to point out that the Bill would meet with the most powerful opposition, and this from men whose opinions would carry the greatest weight. Therefore to his brother-in-arms against the encroachment on his just rights and privileges he would say: Put not your trust in Councils. He himself had fought the Council of the Institute on more than one occasion in defence of these rights and privileges, and it was because of this fact that he urged the Meeting not to trust the Council, or, like himself in the past, they would bitterly rue it. He had come into the room that evening prepared if challenged to prove up to the hilt the truth of every statement he had made. The proofs lay there to his hand; they were anyone's for the asking, but he would hazard the opinion that it would be wise of those in possible opposition to himself not to press the point, as, apart from other undesirable results, he foresaw there would be but little progress made with the business to be transacted that evening. In conclusion, with but the single object of insuring a reasonable discussion of this proposed bargain, he would formally move as an amendment to the resolution now before the Meeting: "That the Resolution passed at the Meeting on the 10th April be not confirmed."

It being pointed out that Mr. Gammell's resolution was a direct negative of the motion before the Meeting, Mr. WILLIAM H. BURT [*A.*] moved that the Meeting be adjourned to that day 12 months.

Mr. GAMMELL seconded.

Mr. J. NIXON HORSFIELD [*A.*] supported the motion for adjournment, because the report of the principal Meeting, which this was to confirm, was not published in the JOURNAL, and therefore most of the members of the Institute were in ignorance of what had taken place.

THE SECRETARY stated that the Institute Solicitors had been consulted on the point and their opinion was that the publication of the discussion in the JOURNAL had nothing to do with that Meeting, and could not validate or invalidate anything.

Mr. HUBBARD agreed that it was a pity the discussion at the former Meeting had not been published in the usual way.

THE SECRETARY asked permission to explain that the JOURNAL was a public periodical, which could be bought by the public. The document in question was strictly private and confidential, and must remain so until the 11th of May, when the Society of Architects would deal with it. It had never yet been printed without the heading "Strictly Private and Confidential." If it had been printed in the JOURNAL it would have lost its confidential character.

Mr. SHEPHERD suggested that such a document could have been sent in a separate envelope.

Mr. ELKINGTON asked whether, in the calling of this Special General Meeting for the confirmation of the resolution passed on the 10th April, there was any *arrière pensée* in the minds of the Council that discussion would thereby be limited. If the Council had put the confirming resolution on the Agenda for the Annual Meeting, the Associates would have been able to discuss it fully. It was competent, according to the Charter, for resolutions to be confirmed at a subsequent Meeting, not necessarily a Special General Meeting, and it would seem, in the absence of direct explanation, that the summoning of a Special General Meeting was adopted solely to limit discussion.

THE SECRETARY read By-law 64, which provides that the Annual General Meeting shall be held on the first Monday in May to receive and consider the Report of the Council.

THE CHAIRMAN having ruled Mr. Burt's motion for adjournment out of order, Mr. BURT asked on what By-law the Chairman based his ruling.

THE SECRETARY was asked to read the material portion of By-law 65, viz.: "The Council may at any time call a Special General Meeting for a specific purpose . . . and no other business shall be discussed at such Meeting." The business for that evening, continued the Secretary, was simply to vote upon the resolution on the notice-paper, and that was the only business before the Meeting, and according to the Charter only Fellows could vote upon the resolution.

Mr. BURT: I can find nothing in the By-laws to justify refusal of an adjournment.

THE CHAIRMAN: My duty is to move the resolution on the notice-paper. I am unable to put your motion from the Chair, Mr. Burt.

Mr. BURT: I think you are badly advised. Do you remember any case in the House of Commons, which is the great debating society, where such a motion has been ruled out of order?

THE SECRETARY: This point has been raised several times at confirming Meetings, even in the short time that I have been here, and that has been the answer from the Chair, that nothing can be done at the confirming Meeting except to take a vote for or against the confirming resolution.

Mr. GAMMELL : Shall I be entitled to vote if this resolution is put?

THE CHAIRMAN : No; the Charter says that Fellows only may vote on resolutions proposing changes in the By-laws.

Mr. GAMMELL : Then it is a farce. I was permitted to vote on two occasions at the last Meeting.

THE SECRETARY : There were two resolutions passed on the 10th April. One dealt with the Registration Bill and the Society of Architects, and was voted on by Fellows and Associates; that did not require confirmation under the By-laws. The second resolution amended the By-laws, and on that only Fellows could vote. Under the Charter that resolution must be confirmed or rejected this evening.

THE CHAIRMAN : Those who oppose the resolution can upset it by voting against it.

Mr. DAVIDGE : There has been no answer yet as to why this resolution for adjournment is out of order.

THE CHAIRMAN : The Secretary has read the passages in the Charter and By-laws governing the matter. I cannot accept Mr. Burt's motion for adjournment.

Mr. C. A. GEEN [*A.*] : The Chairman's ruling is correct. If a Special General Meeting is called for a certain purpose, only that business can be taken at that Meeting.

THE CHAIRMAN read the resolutions.

Mr. H. W. CUBITT [*A.*] pointed out that though Associates were not allowed to vote, there was nothing to prevent them discussing the matter. It was obvious that there was a very strong objection to this scheme being rushed through. If the proposal was as good as the Council thought, why was it necessary to rush it through in this manner? It was the most serious proposal that had been made since he had been a member. He had not been present at the previous Meeting, as he thought it would not go through without serious consideration. But he was surprised to find that it had been rushed through in the way it had. He had come to the Meeting that evening under the idea that it was a matter which the whole body of members were entitled to discuss. He now found that the only class who could vote were the Fellows, and the Council were at liberty to push this resolution through in the face of objections raised by members of the junior class. Was it a wise policy, with the idea of getting new members and introducing a Registration Bill, to go counter, as he believed it was, to the wishes of the large majority of a class which was numerically stronger than any other? The question rested in the hands of a few gentlemen present who held the great honour of being Fellows. Looking at the matter seriously, would they gain much by pushing it through straightway at that Meeting? If it was a good proposal, would anything be lost by discussing it more thoroughly than they could now? If the Associates were able to vote, the majority would be about double against the resolution. The Associates had not got that power to vote, but they had, he hoped, a certain moral influence. He did not agree with the policy of some members in trying to make a line of cleavage between anything that was proposed by the Fellows and the ideas of the Associates. But he suggested to the members who had the power of voting to consider whether that power would be exercised in the interests of the Institute by forcing this matter home. There were fifty other men in the room who would say the same thing. And he thought as they could not vote they would be justified in telling the men who could vote what they thought about it.

Mr. HENRY T. HARE, Hon. Secretary, said there was no wish on the part of the Council to unduly rush this matter through. The policy which was decided at the last Meeting was properly announced to the whole of the members of the Institute. The requisite notice was given that the Council had considered this policy and recommended it to the Institute. There was every opportunity for any number of members to have been present then and to have discussed the whole thing. It was regularly conducted, and a vote taken, at which a large majority expressed themselves in favour of this policy. The object of the present Meeting was a small matter of machinery to carry out that policy. There was no question of going back on the vote which was taken at the last Meeting. This piece of machinery did not affect the main question at all, which had been passed and done with.

Mr. F. R. HIORNS [*A.*] protested against the statement that the question had been regularly discussed. There was nearly one half of the Supplement—equivalent to a page or more of close printing—which had not been discussed at all, it having been put *en bloc* at the last Meeting. It was a grave injustice to members to attempt to press through a most important question like this without opportunity being given for discussion. The matter vitally concerned the status of members, both Fellows and Associates, and more particularly, perhaps, the latter. Yet they were given practically no opportunity of expressing their views on the subject. Whatever might be the legal position, he felt that a grave injustice had been committed by the Council, in making use of their power to arbitrarily force this matter upon them, especially in view of the very strong feeling expressed by a section of members against the matter being dealt with in this way. He appealed earnestly to the Chairman that nothing of that sort should be done. He thought if the Council forced the thing through, the results in years to come might be very serious. He felt so strongly about the matter that he even ventured to think that a number of members would be forced to consider whether they could remain in the Institute if such a gross misuse of power continued to be exercised by its governing body after the emphatic protests which had been made.

Mr. HUBBARD : Whether right or wrong, it seems to me advisable that this Meeting should be adjourned. We shall be well advised if we carry the general feeling of members with us, rather than snatch a vote in this room to-night.

Mr. R. J. ANGEL [*A.*] : May I ask what is the requisite number of members to make a quorum?

THE SECRETARY : Thirty.

Mr. ANGEL : May those thirty be Fellows and Associates?

THE SECRETARY : Yes.

Mr. ANGEL : What will be the position of this Meeting if Associates who now help to form a quorum retire, and so reduce the number to what I think will probably be below thirty? The Fellows at this Meeting are not numerous enough to form a quorum and they would not be able to carry the resolution which is put to the Meeting.

THE CHAIRMAN, after some further discussion, proceeding to put the vote a considerable number of members retired from the room. Upon a count of those remaining it was found that a quorum was present, and the motion being put to the Meeting was voted upon by show of hands, Fellows only voting, and declared carried.

The proceedings closed, and the Meeting separated at 11.35 p.m.

St. Paul's Bridge.

The following Resolution was passed by the Council of the Institute at a Meeting held on Monday, the 22nd inst. :—

"That this Council having considered the evi-

dence offered to Parliament in support of the scheme of the Corporation of London for the construction of a new Bridge near St. Paul's, to be known as St. Paul's Bridge, is unanimously of opinion that if it is carried out as now designed a great opportunity for the architectural improvement of London will be irrecoverably lost, and that a scheme of such importance ought not to be sanctioned by Parliament until it has been approved by competent artistic authority."

The President, Mr. Leonard Stokes, in a letter in *The Times* of the 8th May, says :—

"It is announced that the Select Committee of the House of Commons have given their approval to the proposals of the Corporation with regard to the above bridge, and after reading the evidence that was laid before the Committee I feel bound to call attention to the injustice that has been done to the attitude of the Royal Institute of British Architects in the matter. The Corporation put forward a succession of expert witnesses to prove to the Committee that, from the point of view of the engineer, the surveyor, the tramway builder, the traffic regulator, and the financier, the proposals of the Corporation were preferable to those of the Royal Institute ! The fact is, however, as we have pointed out again and again, and as we explained clearly in our petition, we have never put forward any alternative proposals at all. As we stated in our petition, we consider that the Corporation's scheme 'has been prepared without any consideration of its architectural character, and from a purely utilitarian point of view.' And it has been condemned by a remarkable consensus of artistic opinion. From first to last we have confined ourselves to pointing out the obvious fact that architectural considerations have been ignored, and to urging that in a scheme of this nature and magnitude the Corporation had no right to ignore them.

"The Corporation made no real attempt to meet our point before the Committee. What they did was to take one isolated solution of the problem, which was not even before the Committee, but happens to have been discussed in the public Press, to bring against it a mass of expert opinion, and by so doing to endeavour to convey the impression that they had dealt with the Institute's objections. There are other ways out of the difficulty, I happen to know, but the Corporation does not appear to have made any honest attempt to find them.

"We can only continue to urge upon Parliament that this great problem should be fairly and fully considered from an architectural standpoint before London is committed to it."

Sir Wm. B. Richmond, K.C.B., R.A. [*H.A.*], says in *The Times* of the 20th May :—"The line and direction of the approaches to the bridge have for some time not only seriously occupied the attention of the Bridges Committee of the Corporation of London, but have caused considerable apprehension in the minds of architectural experts, as well as of distinguished sculptors and painters, the Press, and the more educated members of the public : educated because lives devoted to the study of æsthetics and much travel may make claim for knowledge and, perhaps, sound judgment. When a watch is out of order we apply to a watchmaker for advice ; when in doubt upon a matter of pure business, the business man is the expert whose advice is sought.

"Now there is a science of taste, the ethic of taste ; in its application the men who are experienced in designing, erecting, and accomplishing have acquired a wider radius of mental picture vision than is granted to those whose avocations have led them in an entirely opposite direction. In other words, there are people that know and people that do not. In questions of finance the business man is the best judge ; in questions appertaining to any art the artist is *facile princeps*, and in his view the approaches to our great Cathedral must combine the greatest possible dignity with expediency. The scheme of the Corporation ignores the one great Cathedral built since the Reformation, and sets it to one side of a tramways system. Utility no one questions, but when, for its sake alone, all architectural dignity is treated somewhat in the nature of wastepaper, it can hardly be surprising that the 'more educated' demand due consideration for a scheme which is not transient, but to which London is to be committed for all time. Parliament, with whom now rests a great responsibility, will doubtless recognise that it is imperative that the scheme which has passed Committee should be reconsidered if, as *The Times* so courageously wrote in that significant phrase, London is not to deserve the epithet of 'The City of the Blind.'"

King Edward Memorial.

In the House of Commons on Monday Mr. Douglas Hall asked the Prime Minister whether he would make it a condition to the granting of Crown land, either in Hyde Park or elsewhere, for a site for the memorial to King Edward VII., that the plans or the designs of the proposed memorial should be selected after open competition, and that the greatest possible portion of the work should be British ; and that upon the committee of selection the Government or the House of Commons should be represented.—Mr. Dudley Ward replied that this memorial was initiated as the London memorial to His late Majesty, and His Majesty's Government had made no contribution to it. The subscribers had elected a committee of which the Lord Mayor was chairman to make recommendations with regard to the site and the form of the memorial. It would be difficult for His Majesty's Government to interfere with the work of the committee unless or until the committee brought

forward some proposal which might affect the property of the Crown or of His Majesty's Government.

Continental Town Planning.

The deputation from the Birmingham Corporation which recently visited Germany and Austria to study town development in those countries have issued their report. The deputation, left England on May 25 and returned on June 5, having travelled approximately 2,500 miles. The towns visited were Berlin, Vienna, Munich, Ulm, Mannheim, Frankfort-on-the-Maine, and Düsseldorf.

The report states that "there is no question that town development in Germany has been, in some towns, carried out in an extravagant way; but England has the advantage now of all the experience gained by Germany, and, if the economic effects of any proposals are considered with the utmost care, the town-planning of suburban areas will result not only in better amenities for the neighbourhood, but in savings for ratepayers and rentpayers." Everywhere in Germany, it is stated, town-planning is regarded as one of the most important functions of the town council; in some instances it has become a profession engaging the whole time of experts. Courses of lectures on the subject are given in technical schools and universities, and the literature concerning it is extensive. It is probable, however, the report states, that in our large towns we have obtained as good—or even better—results so far as the general health of the people is concerned as have been obtained in most German towns, and that the superior cleanliness and thriftiness of the German people enable them to live with less risk to health under less favourable housing conditions. The deputation were interested to note that what is conspicuously good in English methods of housing the people is appreciated in Germany, and that English conditions are being copied.

The deputation realised, in the towns which were visited, that a great deal of attention was paid to manufacturing and commercial interests. "The German municipalities recognise the desirability of stimulating local industries, and they assist manufacturers in many ways. Indeed, towns may be said to vie with each other in offering inducements to manufacturers to come to them, and not the least item in this respect is the means of transit by rail and water. Yet this is done without producing the ugly results which follow our unregulated practice of allowing works and dwellings to develop conjointly."

Dealing with the æsthetic aspects of town-planning, the report says:—"The fact that stoves are used in dwelling-houses and that factories are not generally allowed to be situated in residential areas results in very much less smoke and soot in German towns than in English towns having a corresponding number of manufactories and houses. This enables attention to be paid to beautifying the town in every way, and gives these towns a clean and cheerful appearance, which attracts the attention of an Englishman."

The King has been graciously pleased to appoint Sir Aston Webb, C.B., R.A. [*F.*], Commander of the Royal Victorian Order.

During the summer an official guide will be provided at the British Museum to conduct visitors to the collections. The guide will be in attendance every week-day at noon and at 3 o'clock in the afternoon. Arrangements may be made in advance to obtain the services of the guide at other hours. No charge will be made for this service, which is provided as an addition to the educational facilities offered by the Museum.

A Memorial to Sir Thomas Drew has been placed in Christ Church Cathedral, Dublin. It was executed by Messrs. Sharpe & Emery, under the supervision of Mr. Harold E. Coyle, architect. It is in the form of two Latin brass plates, surmounted by carvings in Cong stone, and inscribed. The carving over the memorial represents his knight's helm, with the Drew arms, hereditary, displayed with the acanthus leaf. The brass plate beneath has a chevron bordering.

At the Provincial Sessional Meeting of the Royal Sanitary Institute to be held at Exeter on the 2nd and 3rd of June, the Meeting on Friday, 2nd June, will be held in the Royal Albert Memorial University College, Exeter, at 7.30 p.m., when a discussion will take place on "Ventilation in Theory and Practice" to be opened by Mr. J. Jerman [*F.*]. Among members of the Institute who, it is hoped, will take part in the discussion are Messrs. James Crocker [*F.*] and Percy Morris [*F.*]. The Chair will be taken by Mr. H. Percy Boulnois, M.Inst.C.E.

ALLIED SOCIETIES.

Manchester Society of Architects.—The Forty-seventh Annual Report of the Council of this Society, adopted at the Annual General Meeting held on 26th April 1911, states that the aggregate membership is 282—viz.: 108 Fellows, 117 Associates, 57 Students—as against a membership of 268 at the date of the last Report. The attention of the Council having been drawn to a serious case of a tradesman openly offering by letter a commission to one of the members, the Council sent the correspondence to the Royal Institute with a request that the tradesman should be prosecuted under the Prevention of Corruption Act, 1906.* The report refers with satisfaction to the resolution adopted by the R.I.B.A. Council treating it as a breach of professional etiquette for Members or Licentiates to take part in Competitions which the Council have barred.† This is in accord with the Society's

* Particulars of this matter and of the action taken thereon by the Institute Council were published in the Journal of the 18th February last.

† See Journal, 10 Dec. 1910, p. 101.

additional By-law No. 16, adopted on the 8th October 1908. With reference to the threatened demolition of the Old Town Hall in King Street, the Council have passed the following resolution and sent copies to the Town Clerk and to Lloyds' Bank :—"That as the City Council will shortly be re-considering the question of the sale of the Free Library buildings and site, the Council of the Manchester Society of Architects, while fully appreciating the difficulties of the position, would strongly urge the careful consideration of the possibility of saving this building, which, from an architectural point of view, for simple dignity and refined and scholarly design, is a masterpiece probably unsurpassed in the City, and is a possession of which any town should be proud. They with other lovers of beautiful architecture would view its loss with the utmost regret, and hope that some means may be found of preserving it." At the request of the Manchester, Salford, and District Building Trades Employers' Association the Council have considered the necessity of including in all provided sums something to cover the services rendered by the general contractor where the work is done by a specialist, and have passed the following resolution :—"That architects be advised to make it clear in Bills of Quantities that the Contractor is to add his profit in provisional sums included in Quantities." The Council have again been in communication with the Royal Institute with regard to their proposed action to protect architects against liability for dry rot. Representations have been made to the R.I.B.A. Council with regard to a larger representation of provincial members on the Institute Council. Mr. Paul Ogden [*F.*] has been elected the colleague of the President to represent the Society on the Advisory Committee of the Manchester School of Architecture. To assist an appeal made for funds to aid the further endowment of the School of Architecture, the Society has contributed a sum of £241 17*s.* 10*d.* Of this sum £200 has been paid over to the University ; the balance remains in the bank, and it is hoped that this may be added to substantially, as the sum asked for from the Society was £300. The Council have nominated 31 members for admission to the new Licentiate class of the Royal Institute. Annexed to the Annual Report are the Reports of the Education in Architecture, Competitions, House, Library, Town Planning, and Students' Committees. The House Committee report that they have considered the desirability of obtaining new premises for the Society, and are at present in communication with a firm of architects with a view to obtaining rooms in a building which is to be erected shortly and in a more central position. The Practice Committee report that much time and discussion has been spent upon the question of the liability of architects with regard to dry rot, and as to the possibility of insuring against it in a similar manner to that against cases of fire and accident, and it is hoped that before the end of the present year the Committee, through the Council, will be able to make recommendations to the members of the Society. The general work of the Town Planning Committee during the past Session has had reference to suggestions for future improvement in the approaches to the Exchange and Victoria Station and the general main-traffic approaches into the City. These matters are still under consideration. The Students' Committee report that, although there has been a slight decrease in the attendance compared with last Session, it is encouraging to note that the meetings have been specially marked by the enthusiasm and vigour of the discussions which the various Papers have produced.

West Australian Institute of Architects.—Mr. W. A. Nelson, Hon. Secretary, sends particulars of the Annual General Meeting of this Institute held recently at the rooms, Barrack Street, Perth. Mr. G. T. Poole presided over a fair attendance of metropolitan members. The Council presented their eighteenth annual report and balance-sheet, which were adopted. The report stated—*inter alia*—that the roll of membership included Life Fellows, 1 ; Fellows, 21 ; Hon. Fellows, 1 ; and Associates, 10 ; total, 33. During the year the long desired affiliation with the Royal Institute of British Architects has been accomplished, and the parent Institute invited the W. A. Institute to become members of the Town Planning Conference held in October last. The President was nominated, and Messrs. C. S. R. Palmer and John Slater, F.R.I.B.A., were appointed as representatives. The question of Registration and Statutory Qualification has again received serious consideration during the year, and the Institute having decided to adopt the Board system, a Bill was drawn up by Mr. Draper on the lines of the Medical Practitioners Act and the Dentists' Registration Bill, copies of which draft have been issued to all members of the Institute. The State Government have promised to discuss the principle of the Bill, with a view to making it a Government measure next session. The by-laws for the new metropolitan system were gazetted early in the year, and it is regretted that the recommendations made by the Institute were not carried into effect, as the by-laws in their present form have given rise to great dissatisfaction. After much correspondence and hesitation the City Council decided to pay over the premiums in connection with the recent competition for a Town Hall at Perth, thereby closing the history of a competition which proved unsatisfactory to all parties concerned. The attention of the Council has been drawn to the unprofessional conduct of certain architects practising in Perth : the Victorian Institute being communicated with, took such action as caused the imposition to be stopped. The Institutes of the Australian States have now been requested to unite in drawing up a code of ethics for the conduct of professional business. The R.I.B.A. Regulations for Architectural Competitions, revised 1910, which govern all affiliated societies have been adopted. The Institute of Architects of New South Wales and the Royal Victorian Institute of Architects have requested this Institute to join in making representations to the Federal Government that proper conditions be drawn up by an inter-State Committee to govern the very important competition for the Federal Capital. The Council has agreed to the suggestion on the definite understanding that the Government pays expenses. Early in the year the Royal Institute of British Architects drew the attention of the Institute to the fact that a new class of members had been created, designated Licentiates R.I.B.A., and in reply to our suggestion the nomination papers of all candidates resident in Western Australia will be sent to this Institute for report. At the request of the Perth City Council a Committee of the Institute Council waited on the Mayor and Councillors to discuss the question of standard street verandahs, and it was agreed that a general standard should be

adopted without verandahs, posts, and limiting sign-boards on the lines of a design submitted by the Institute; but it is now understood that a fixed design has been adopted which will not tend to the artistic development of city façades. Inquiries were made by H.M. Trade Commissioner in Australia on the subject of promoting British trades, and in reply many suggestions were sent by this Institute, and a general desire was expressed to use Australian or British-made goods in preference to foreign-made goods, provided the best qualities could be obtained stamped and guaranteed up to a standard or specification. After the fullest consideration the Council decided that the request of the Builders and Contractors' Association for a special agreement in the matter of bills of quantities could not be entertained, but that members of the Institute were willing at all times to afford reasonable facilities to enable quantity surveyors to take out quantities and issue bills for works for which tenders are required. The Treasurer's statement showed that the financial position of the Institute was sound, but on the matter of arrears of subscription the Council decided that prompt action must be taken. In conclusion, the Council express the hope that members will take a greater interest in the general affairs of the profession, so that the Institute may become a greater factor in encouraging high ideals of practice and in promoting the study of architecture. The following officers have been elected for the ensuing year:—President, Mr. P. W. Harrison; Vice-Presidents (2), Mr. J. T. Hobbs, Mr. G. T. Poole; Treasurer, Mr. R. H. B. Downes; Hon. Secretary, Mr. W. A. Nelson; Members of Council, Mr. J. J. Harwood, Mr. J. C. Cavanagh, Mr. J. H. Eales, Mr. A. R. L. Wright, Mr. R. J. Dennehy, Mr. T. W. L. Powell; *ex-officio* Members of Council, Past Presidents C. T. Poole, M. F. Cavanagh, and J. T. Hobbs; Auditors (2), Mr. F. W. Upton, Mr. A. D. Cameron.

MINUTES. XIV.

At the Fourteenth General Meeting (Ordinary) of the Session 1910-11, held Monday, 22nd May 1911, at 8 p.m. —President, Mr. Reginald Blomfield, A.R.A., *Vice-President*, in the Chair; 19 Fellows (including 6 members of the Council), 22 Associates (including 1 member of the Council), 3 Hon. Associates, 12 Licentiates, and several visitors—the Secretary, by the direction of the Chairman, read the following corrections of the Minutes of the Annual General Meeting held 1st May (see JOURNAL, 6th May, pp. 483, 484), viz.:—

On p. 483 insert the following after the paragraph recording the Chairman's formal presentation of the Annual Report: "The Report was discussed by Mr. Wm. Woodward [*F.*], Mr. W. R. Davidge [*A.*], Mr. Herbert Shepherd [*A.*], Mr. A. T. Bolton [*F.*], and others."

On page 484, insert the following after the 3rd paragraph: "The following amendments were made by the Chairman:"

On the same page, insert the following at the end of the 4th paragraph: "This latter amendment was made at the instance of Mr. F. R. Hiorns [*A.*]."

On the same page, insert the following at the beginning of the 5th paragraph: "On the motion of Mr. Herbert Shepherd:"

The Minutes of the Annual General Meeting were then passed and signed as correct.

On the Minutes of the Special General Meeting held Monday, 1st May [JOURNAL, 6th May, p. 484], being brought up for confirmation, the Chairman stated that it was proposed to omit the words "and similarly constituted" from the 4th line. The amendment was agreed to.

The following amendments were also agreed to:—

On p. 484, 2nd column, in the 2nd line of the paragraph beginning "Mr. W. H. Burt," substitute the word "adjourned" for "postponed."

In the 4th line of the same paragraph insert the names of Mr. George Hubbard [*F.*] and Mr. Albert W. Moore [*F.*], after that of Mr. Nixon Horsfield [*A.*].

In the 2nd line of the paragraph beginning "It being found" the number of the By-law to be "67" instead of "25."

A discussion ensued on a proposal by Mr. R. J. Angel [*A.*] to add in the 6th paragraph, 2nd column, after the words "the Chairman ruled that the motion for adjournment was out of order," the following words: "The Solicitors having already advised that at a Special General Meeting called for confirmatory purposes a motion for adjournment could not be accepted, the Chairman adopted the statement submitted by Mr. Shepherd that if this was a wrong ruling any subsequent proceedings at this Meeting would be invalid and non-effective."

Mr. Maurice B. Adams [*F.*] deprecated the insertion of the words proposed in the absence of the Chairman of the Meeting in question, and, the proposer having admitted that the Minute in its present form was not inaccurate but only required amplification, the Chairman pointed out that a detailed report of the discussion would appear in the next issue of the JOURNAL.

Finally the Minutes as amended were put from the Chair, and having been agreed to were signed as correct.

The Hon. Secretary announced the decease of William C. Poole, *Associate*, elected 1863.

The Secretary announced that the following candidates had been nominated by the Council for election—viz.: As FELLOWS: Hastwell Grayson [*A.* 1897] (Liverpool); James Lochhead [*A.* 1894] (Hamilton, N.B.); William Ralph Low [*A.* 1886]; Henry Alfred Neubronner [*A.* 1899] (Penang, Straits Settlements); Francis John Potter [*A.* 1909]; George Lister Sutcliffe [*A.* 1891]. As ASSOCIATES: James Albert Aird [*Qual.* 1910] (Montreal); Charles Dudley Arnott [*Qual.* 1910] (Shanghai); David Wickham Ayre [*Qual.* 1910]; Alfred Francis Collins [*Qual.* 1910]; David Colville [*Qual.* 1910] (Vancouver, B.C.); Arthur Redfern Cornwell [*Qual.* 1910]; Alan Gordon Monsbourgh [*Qual.* 1909] (Johannesburg, S.A.); William Mortimer Paton [*Qual.* 1893] (Dublin); Arthur Floyd Trebilco [*Qual.* 1910] (Melbourne).

The Secretary further announced that over 150 candidates, whose names were printed in the Supplement for the 22nd April, had been nominated as Licentiates, and it was agreed that their names should be taken as read.

The following Members and Licentiates, attending for the first time since their election, were formally admitted by the Chairman—viz.: Francis Seymour Hulbert and Robert John Angel, *Associates;* Reginald Henry Fowler, Walter John Hopkins Leverton, Francis George Ashwell, Frederic Evelyn Openshaw, Alfred Edward Watson, Arthur Williamson, Harold Henry Graham Lewis, Samuel George Short, and Alfred Howard, *Licentiates.*

A Paper on PAINTED RELIEF having been read by Mr. R. Anning Bell and illustrated by lantern slides, a discussion ensued, and a vote of thanks was passed to Mr. Bell by acclamation.

The proceedings closed and the Meeting separated at 10 p.m.

Mud-brick Tomb, near El Kab, Upper Egypt.

BUILDING METHODS IN EGYPT.

By Ernest Richmond, *Licentiate R.I.B.A.*

Read before the Royal Institute of British Architects, Monday, 12th June 1911.

EGYPT has been described as the chosen home of what is strange and unexampled and paradoxical; as a land eternally and unalterably abnormal. Herodotus in his long list of Egyptian eccentricities illustrates by a variety of curious examples how Egyptian customs are the opposite of those followed elsewhere; and, probably, every modern student of Egyptian affairs could compile his own account of anomalies and peculiarities. Certainly a builder or an architect from Europe, especially if an opportunity be given him of working in every part of the country—in towns, in villages, in the desert, and in the open fields—will gather a variety of strange and interesting experiences, not only in respect of purely local methods, but also in regard to practice imported from Europe.

Extensive foreign participation and co-operation in Egyptian affairs have, of course, brought into the country a large body of people whose manner of life differs widely from that of a large proportion of the native Egyptian; and the methods of construction followed by the latter and replying, from time immemorial, to his manner of life are, not unnaturally, unable to respond completely to the new conditions, and to provide the whole of the requirements of the foreigner or of the Egyptian influenced by foreign ideas. If, however, local methods do not provide all that is needed in an age of change and activity, they are at any rate curiously, though perhaps incompletely, adapted to the physical conditions of the country; and an architect will lose nothing by studying them respectfully. By bearing in mind some of the principles they embody he will be in a better position to devise those new methods and introduce those new materials by means of which he will be able to fulfil the requirements of modern life.

A cursory visit to an Egyptian town or village affords ample and convincing evidence that the manner of life, to which the houses give outward expression, is as far removed from modern European life as the houses themselves are ill adapted to European requirements, not only in respect of plan and general arrangement, but from the point of view of comfort, cleanliness, health, and economy of maintenance. The house does not mean the same thing to an Egyptian and to a European. The former spends more of his time in the open air than the latter,

and this idea is even present in the word used to express a house—a word derived from a root meaning to pass the night. The solidity and finish which we regard as so essential to our comfort and sense of security are both absent in an Egyptian house; and, in consequence, an Egyptian town is apt to present an appearance of squalor and decay by no means pleasant to our eyes. Disorder, dilapidation, and neglect seem, at first sight, to be the prevailing, and indeed, almost the sole characteristics, at least of the lower Egyptian towns. The buildings look as if they were never repaired, and many of them as if any attempt at repair, short of complete reconstruction, would be out of the question. The towns of Upper Egypt are better in this respect than those of Lower Egypt. The better appearance of the Upper Egyptian towns is not, however, due to different and better methods of construction, but to a less rainy, and indeed an almost rainless, climate.

The dilapidated appearance of an Egyptian house is to be attributed, to a large extent, to the condition of the surface rendering of the walls. The surface rendering is an important feature in Egyptian building; but, in order to understand its use, it is necessary to gain a clear appreciation of the nature of an Egyptian wall and of the methods and materials used in the construction of the latter, and, further, to establish the connection between these methods and materials and the prevailing physical conditions of the country. These conditions may be said, broadly speaking, to arise, on the one hand, from the annual miracle of the Nile flood; and, on the other, from the daily miracle of the Egyptian sun. It is of the Nile and the sun that we chiefly think when we think of Egypt; and it is to their influence that the attention of anyone who would build in Egypt must chiefly be directed. They are the enemies who daily seek to destroy his work, and it is against their attacks that he must prepare.

Buildings in Egypt stand in conditions with which it would probably be difficult to find a parallel elsewhere. During the flood season their foundations are in water or in mud; and, after the Nile has fallen, on hard caked clay. The ground forming the bed upon which foundations rest, changes, then, materially in character twice every year. Such changes do not take place without some effect upon the foundations; and, consequently, upon the superstructures of buildings.

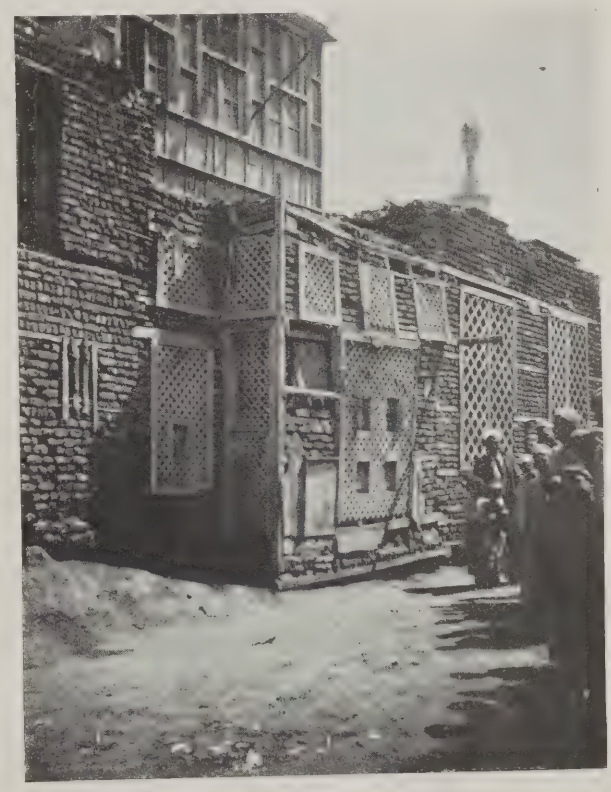
A good illustration of the effect of water upon the character of Egyptian soil was afforded by the case of buildings constructed upon uncultivated and unwatered alluvium, forming land which had not been irrigated nor subjected to the results of neighbouring irrigation for a number of years. After this land had been reclaimed, and, by means of pumps, thoroughly soaked with water, the soil expanded and the surface rose as much as half a metre; and, in so doing, wrecked the buildings.

The annually recurring changes in the nature of the soil are not, however, the only changes to which the buildings are subjected. There is an extensive range of temperature, not only between winter and summer, but between night and day. Further, the atmosphere of Egypt is remarkable for its dryness. The effect of rapid and frequent rises and falls of temperature is very marked. In the desert in Upper Egypt, it is possible to hear the rocks splitting as the evening cools after a hot day, making a sound like pistol shots. Experiments have shown that the range of temperature in the middle of a wall three-quarters of a metre thick in Cairo may be 40° Fahrenheit through the year; and that, during the daylight hours, while there was little change of temperature in the heart of the wall, there was a range of eight or nine degrees at a depth of 10 centimetres from the surface in July and August. If temperatures had been taken at night also the range for the whole twenty-four hours would certainly be found to be greater. But practical experience has proved more conclusively than experiment that, under certain circumstances which will be described later, the changes of temperature may be such as to result in stresses greater than a wall can resist.

Buildings in Egypt are, then, almost daily subjected to forces above and below ground which

tend to bring about movements. Below ground the water level is continually changing; and above ground alterations in the temperature, even more frequent, are setting up stresses which are difficult, if not impossible, to calculate.

It is, perhaps, sufficiently clear from the foregoing that Egyptian buildings stand in conditions less ideal than might, at first sight, be inferred from the uneventful appearance of the country. There is, however, another aspect of the case which must be touched upon in order to complete a general summary of local physical conditions. Though the alluvium deposited by the Nile occupies by far the greatest area of the country, yet buildings are comparatively seldom constructed upon it. Building activity is, of course, for the most part, confined to the neighbourhood of towns and villages. Now the floor of Egyptian towns has not been laid down by the Nile, as is the case of the surrounding cultivated land; but has, in the first instance, been deposited by man, with the object of attaining a ground level for buildings above the reach of the floods. The levels of towns and villages have progressively risen through the ages owing to the successive construction of houses upon the ruins of those which have fallen or have been demolished. All village or town land, the level of which is higher than that of the surrounding basin land, is of "made" soil. A soil of a similar character is found also at a level lower than that of the basin land; it occurs on the sites of borrow pits formed by the process of taking earth for making the bricks needed for the construction of houses. These pits are subsequently filled in as a town extends its boundaries, and they form, till filled in, the stagnant unhealthy duck and goose ponds which surround Egyptian towns. The danger of building upon recently "made" soil is too well known to be described. Lastly, there is a desert site which may be sandy or rocky; in the former case it is necessary to remember that gardens may be made round the house, and that the resulting watering may modify the foundation bed upon which the building stands; and, unless guarded against, the results of such watering may appear, at some time subsequent to the completion of the building, in the form of inconvenient cracks caused by foundation settlements.



A STREET IN DAMIETTA, LOWER EGYPT.

The structural problems before the builder in Egypt are, it is seen, by no means simple. Stability must be attained upon a foundation bed which is lacking in that quality, and under temperature and atmospheric conditions which tend to the disintegration of the superstructure. As Egypt is famous for its ancient buildings and hardly less so for its mediæval monuments, it will be interesting to see how the difficulties have been met in the past, and to what extent and in what manner they are overcome by the modern native and European builder.

We have seen that practically the whole area of Egypt is subjected, to a greater or less

extent, to the results of the annual rise and fall in the level of the subsoil water. If, then, foundations are to be laid in conditions not subject to change, they must be laid at the level of permanent saturation. This level is, in a large proportion of cases, at a great depth; it is often six or seven metres below the surface. The cost of laying foundations at that depth would usually be prohibitive. Nor is there any instance of such a course having been followed at any time of Egyptian history, except in the solitary case of the underpinning works carried out in 1898 to the temples situated on the island of Philæ. The tendency has been rather in the opposite direction; that is to say, towards keeping the foundations as near the surface as possible. In ancient Egypt this was so much the case that there can hardly be said to be any foundations at all. Ancient Egyptian work affords, I believe, no evidence of foundations deep enough to reach the lowest level of infiltration water. No attempt seems to have been made towards obtaining equal intensities of pressure upon a ground, nor towards restricting the intensity to as low a unit as possible. It is found that a pressure of four kilogrammes per square centimetre was not uncommon. In these days, the usual practice among European builders is to limit the intensity to one or one and a half kilogramme per square centimetre. This low intensity is thought desirable in view of the compressible nature of the soil when wet. The foundations of the mediæval buildings in Cairo are taken well below the ground level, but never to a depth sufficient to reach the level of permanent saturation. The depth depended, probably, on that of the surface rubbish which, in a comparatively modern town such as Cairo, was not great enough to involve much excavation. The practice followed by the modern Egyptian builders is also to dig until they get through the surface earth and reach the naturally deposited alluvium, or, as they term it, the "black mud." In the ancient towns, such as Tantah, and especially in the most ancient part of that town, known as El Kom, or "The Mound," to dig down to the original ground would be out of the question owing to its great depth below the present surface. For excavation in that part of the town a rule of thumb is followed by the natives. For two-story houses they dig to a depth of two metres and a half, and for three-story houses three metres or three metres and a half. Buildings in the highest parts of ancient towns must necessarily stand upon foundation beds of "made" earth compacted only by time.

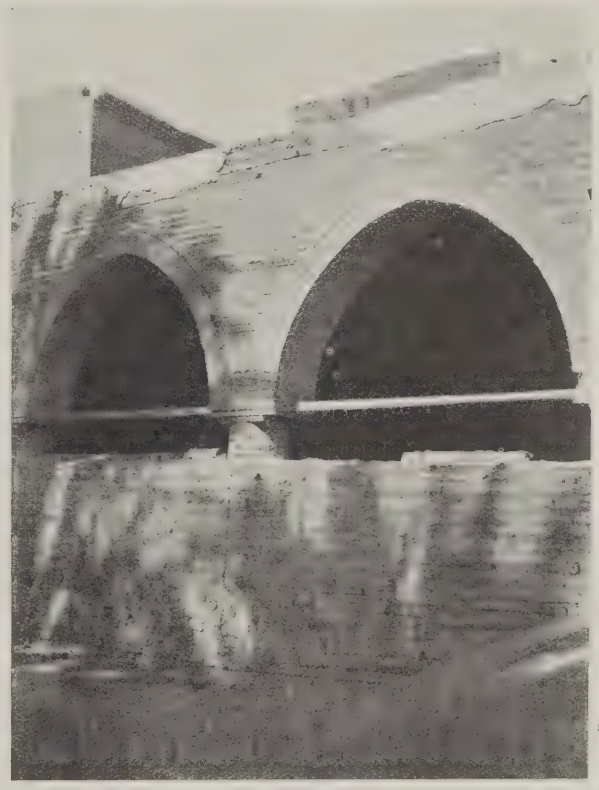
A DOORWAY, AKHMIM, UPPER EGYPT.

No particular attention has, then, in the past been paid by Egyptians to the varying levels of the subsoil water as a determining factor in the problem of choosing a foundation bed for buildings. The practice has been, and still is, to regard the character of the soil, rather than the level of the subsoil water; and to build, if possible on the black alluvium, if not, upon "made" earth compacted by time, or, as in ancient Egypt, probably by ramming and watering.

As no attempt is made to get out of reach of the effects of the rise and fall of the infiltration water, we must turn to the structure itself to discover what methods are taken to adapt it to the inevitable slight movements which must occur from time to time.

The original building material in Egypt was without doubt mud brick. This material is still used to a very large extent; and although for important work it has been replaced by stone and burnt brick, yet the traditional conception of walling derived from mud-brick construction has remained throughout history inherent in the Egyptian builder; and it is possible to detect through all Egyptian work—ancient, mediæval, and modern—the dominating presence of those ideas which originated from mud-brick construction.

This would not be the place to trace the evidence which exists of the transition from the use of mud brick to that of stone; nor to discuss whether the use of the latter was due to the discovery of copper and the development, from this discovery, of tools capable of working stone; or whether the ancient Egyptians were pushed to using stone, and consequently to the discovery of some means of working it, by the climatic conditions of Lower Egypt, where the occasional heavy rainfalls would destroy mud brick. However this may have been, it is abundantly clear that, when they did make use of stone, they used it, structurally, in much the same manner as they had used mud brick; and if it would be too much to say that they never arrived at a complete appreciation of the structural meaning of stone, the manner in which they used it in walling shows, if not invariably, at least in a large proportion of cases, that they continued to think, structurally, in mud sun-dried bricks or mud and reeds. There is little if any structural difference between a stone and mud-brick "mastaba," a stone and mud-brick pyramid; the walls and gateways of many temples might have been built in mud brick without altering their shape or size; and even many of the columns look as if they could be built in mud if it were reinforced by reeds or other binding material.



AT MANFALUT.

The wall of a building in sun-dried brick and mud mortar is a very fairly homogeneous structure; there is no difference between the material forming the mortar and that of the bricks; and, once the whole has hardened, it is not far from being a single mass with nearly equal powers of resistance throughout. A building in stone, however, if it is to approach in homogeneity a building in mud and mud mortar, must be constructed with a mortar capable of setting as hard or nearly as hard as the stone, and of adhering to the stone as mud mortar adheres to a mud brick. In the absence of such a mortar, bond becomes in our eyes a most important element, especially as it is necessary to economise material. But if, as it appears must have been the case in ancient Egypt, conditions of life are such as to render it unnecessary to study economical methods, the stimulus required to evolve the idea of bond is absent; and stability is gained simply by mass rather than by method, the stones being put together for walling purposes with no regard for through bond, and thickness being gained not uncom-

monly by building three or more walls side by side with nothing to connect them. In the case of a mud-brick wall also, it is to its mass that stability is due; a thin yet stable mud-brick wall is inconceivable. It would seem, then, that the absence of bond in Egyptian masonry may be explained by the persistent existence of the mud-brick tradition. The work of the Coptic period, which is, of course, on an incomparably smaller scale than the ancient Egyptian masonry, shows the same absence of bond and the same mud-brick traditions in many of its forms of walling. The monasteries of Deir el Abyad and Deir el Ahmar in Upper Egypt recall, in their thick-battered walls and cavetto cornices, ancient Egyptian work. When ashlar was used in the Coptic period it was employed only as a facing held in its place by its own weight and by wooden beams laid longitudinally, rather than by being bonded through from face to face, or even with the rubble-stone core of the wall. The walls depend, therefore, on their thickness for such stability as they possess. During the Mohammedan period most of the walling presents similar characteristics, though, of course, fine examples of masonry work are found, especially in the work of the Fatimite dynasty. But it must be remembered that the buildings of the Mohammedan period owe their existence largely to influences foreign to Egypt. In modern Egypt one of the most noticeable features in Egyptian methods of walling is the absence of bond. Builders will, if left to themselves, show little or no appreciation of its importance as a means of attaining stability combined with economy of material. In modern work, as in Coptic work, there is much to recall the forms found in ancient Egypt; as, for instance, in the pigeon-houses of Upper Egypt; and in the dwellings themselves, which, both in Upper and in Lower Egypt, are often crowned with the familiar cavetto cornice springing from the top of a wall battered in the ancient manner.

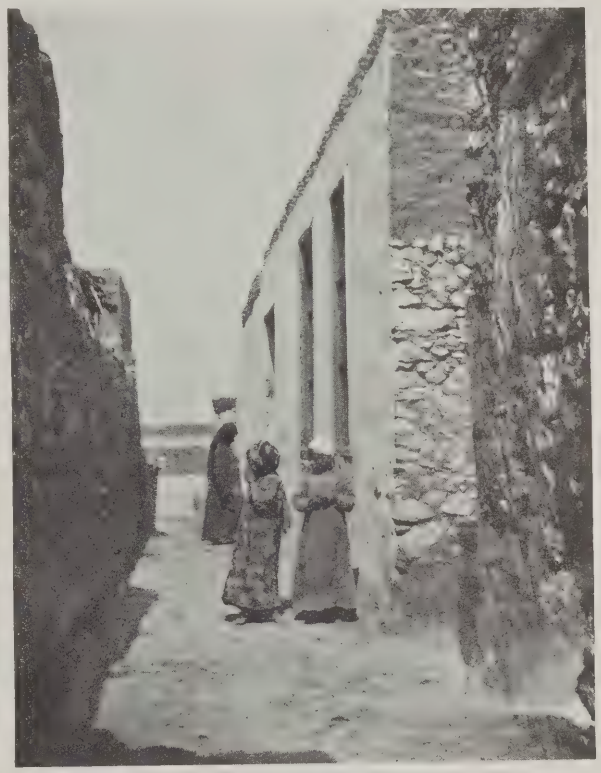
PIGEON-HOUSES, NEAR EL KAB, UPPER EGYPT.

If truly Egyptian methods of construction are to be studied in these days, it is best to search in the provincial towns of Upper and Lower Egypt, more especially in Upper Egypt, rather than in the larger towns of Cairo and Alexandria. In the latter towns, as in many of the Delta towns, European influence is so extensive that foreign methods have largely modified the native practice.

In native practice, the materials most generally used throughout Egypt are burnt brick and mud brick. Rubble stone is also employed, but not to the same extent. This material is used principally in Cairo and Alexandria owing to the existence near these towns of conveniently situated quarries.

The tendency of an Egyptian mason, if left to himself, when using rubble stone, is to break it into small pieces approaching the size of bricks. The native burnt brick is usually very rough; it is made of a mixture of mud and chopped straw cast in moulds, then built into clamps and burnt. The just proportion of width to length, necessary for bonding purposes, is not considered nor aimed at; nor is much attention paid to burning the bricks evenly. In Lower Egypt coal is used for burning; and in Upper Egypt the use of straw for this purpose is common.

The materials used for the composition of mortars are Nile mud, fat lime, the dust resulting from crushing burnt bricks (this dust is locally known as "homra"), sand, gypsum, and, lastly, a material known as "kosremil," which is the residue or ash of a fuel composed of street sweepings used for heating native baths. Various mixtures are used depending on the locality and on the riches or poverty of the building owner. For instance, in Tantah, and other towns situated far from the desert, sand is rarely used by the native Egyptian owing to its cost. In Cairo and Alexandria fat lime is easily obtainable, but in parts of Upper and Lower Egypt it would be out of the reach of many. Homra, the powder of crushed burnt bricks, is commonly used all over Egypt. Nile mud contains a high proportion of silica; and it is thought by some that its use with fat lime is explained by the formation of an insoluble silicate of lime, especially if the mortar is kept damp for a sufficient time. The setting or hardening of mud and lime mortar is, however, a very doubtful as well as a slow process. The lime made from the quarries of Egypt is, for the most part, fat lime, and there is practically none other used, if we except imported limes. The homra, or brick dust, already mentioned, is an artificial puzzolana, and its use with fat lime gives a certain hydraulicity to mortar. Damp is required if the best results are to be obtained from its use. This material is much used in foundation work; and also, occasionally, for elevation walling; but in the latter case, unless special precautions are taken to keep the masonry damp, the results of using homra are apt to be disappointing. Gypsum is used with ashlar work. A great deal of the ashlar of the mediæval mosques is set in a mortar into the composition of which gypsum enters; it is quick setting, expands on drying, and forms a tight joint preventing the escape of any mortar which may have turned to dust in the heart of the wall. The function fulfilled by kosremil, the ash of street sweepings, as an ingredient in mortar, is doubtful; it is thought by some that its presence adds something to the hydraulicity of the mortar; and, by others, that its virtue lies in the salts it contains, nitrates of soda and potassium. These salts keep the mortar, in which they find themselves, damp, thus preventing too quick drying in hot dry weather, an important point when fat lime and Nile mud form the other ingredients; for if the mortar dries too quickly, it crumbles to dust instead of hardening or setting. If this explanation is the true one, the kosremil may be said to act as a substitute for watering, or as a device to ensure that, if watering is neglected, the mortar will not dry too quickly. The following experience rather tends to confirm this view. A column of roughly shaped stones and mud mortar was being built in a remote district in Upper Egypt. The column was destined to bear part of the load of four arches, as well as a proportion of the weight of the pendentives and domes carried by



RUBBLE MASONRY, LOWER EGYPT.

the arches. In order to give the column the required power of resistance, it was, in the opinion of the local builders, necessary to add salt to the mortar. It is difficult to see what use the salt could be, unless it was to keep the mortar damp, and thus prevent crumbling, the result of too quick drying. The need for damp in walls which are built in mud mortar is further

FOURTEENTH-CENTURY WAKALA, MEHALA EL KUBRA, LOWER EGYPT.
Brickwork was originally pointed in gypsum and plastered. Of this little now remains.

exemplified by the objection on the part of many native builders to damp-proof courses where mud mortar is used in the superstructure.

If we except ashlar stone and mortar composed largely of gypsum, it is clear that neither are the materials above described as generally used by the natives for walling purposes, nor is the nature of the soil such as to make the construction of thin well bonded homogeneous walls a safe or practicable proceeding. The bricks are too rough and unequal to make a good

bond possible. The mortars possess no high degree of setting power. In demolishing Egyptian buildings it is found that the mortar in the heart of the walls is almost all turned to dust; unless, of course, gypsum has been used, but this is very rare owing to the expense. To build a 9-inch wall with such materials, and on such a soil, would be out of the question; and a 14-inch wall would be somewhat risky. The Egyptian builder does not attempt to do either, he builds a thick wall, rarely, if ever, less than half a metre thick.

If rubble stone is used, the masons work in pairs, one man on one side of the wall and his colleague on the other. Except that each proceeds at more or less the same pace, there is little connection between their work. There is no through bond. Practically two thin walls are constructed independently, and the space in between is filled with smaller stones and large masses of mortar. The mortar, if it is of mud, kosremil, and fat lime, and if it keeps fairly damp, hardens rather than sets. On the hardening of the mortar, more especially on the outside of the joints, the stability of the wall to a large extent depends; and, in order to fortify the outer joints and to render them as capable as possible of fulfilling their function of small retaining walls to any interior mortar which may have turned to powder instead of hardening, it is a common custom to bed, in the surface joints, small pieces of stone. When fat lime and sand mortar is used, the same practice is often followed, for it is recognised that this mortar sets only on the face, so that the face joint assumes a structural importance which it does not possess when a mortar capable of setting in the heart of the wall is used. If the wall is constructed of brick, hardly any more attention is paid to bond than in the case of a rubble-stone wall. The same mortars are used as those already described, the object of their use being solely to provide beds on which to place successive courses of brick. A more or less systematic appearance of bond is given to the face of a wall, but the application of the principle is not extended to the interior. Each course is constructed by laying bricks side by side about one centimetre apart; the vertical joints between the bricks are purposely left open; such as are not left open are only accidentally filled during the process of laying the horizontal beds. Native-built brick walls, like those in rubble, are rarely if ever less than half a metre in thickness. Walls, whether of brick or rubble, constructed in the manner and with the materials described, and standing upon a foundation bed liable to frequent movements, would of course soon collapse unless the entire absence of bond in the masonry itself were not by some means supplemented. The bond necessary for giving some degree of stability is provided by means of horizontal pieces of timber placed over and under all openings and forming lintels and cills. Ranges of these timbers are carried round the building; and similar ranges are bedded in the

BRICKWORK, MANFALUT, UPPER EGYPT.

walls at the levels of floors and roofs where they form plates to receive the joints; and other timbers are placed, apparently promiscuously, in any position independent of opening or levels of floors and roofs. The amount of timber judged necessary depends on the nature of the land built upon, more being used in buildings upon "made" soil, or on soil with an admixture of sand, than in those constructed on the black alluvium.

The surface of the wall is, when finished, provided with a rendering very generally composed of fat lime and sand. The object in view is not only to improve the appearance of the building, but to fulfil a structural need, that of protecting the outer joints of the masonry from the destructive influence of the sun and wind. The joints would, in the absence of the protective rendering, become cracked and gradually destroyed, or, as the native builder sometimes expresses it, the sun would "burn" the joints, and so prepare for the gradual collapse of the building owing to the escape of the dried and crumbled mortar in the interior of its walls, unless built so phenomenally thick as to be disproportioned to an ordinary building.

BUILDING, NEAR DAMIETTA, LOWER EGYPT.

The main characteristics of a wall such as that described appear to be its elasticity and the capacity it possesses to adapt itself, in a certain measure, to movements, both those in the foundation bed caused by the rise and fall of the subsoil water, and those in the superstructure itself caused by stresses set up by changes of temperature. The function of the timbers is to assist the bond; under opening they resist shearing stresses, acting as cills, and taking up the effects of unequal pressures which without them would in these positions be apt to cause cracks. In the case of a threatened settlement in the foundation bed, or in the masonry itself, between any two points in a length of wall, their action tends to be that of beams; and in the case of a threatened corner settlement, that of cantilevers; in both cases they help to transmit pressures to more solid portions of walling or foundation bed, and thus provide to some extent for the gradual automatic adjustment and distribution of pressures. In the best examples sufficient success is obtained to preclude any danger of sudden collapse. But the success does not extend to producing a building which will not, fairly soon after completion, begin to show signs of dilapidation, more especially in the case of houses in Lower Egypt. Small cracks will occur; the rendering will begin to fall from the loosely built walls, especially in houses of two stories or more, and from the face of the timbers which have been inserted to provide bond. Doors and windows will perhaps jam in their frames owing to slight masonry settlements; the walls to a height of about a metre above ground level will lose their rendering owing to the evaporation of the damp which, in the absence of any damp-proof course, has risen by capillary attraction in the wall, causing crystallisation at the surface of the wall of the salts contained in the materials of which it is built.

Such methods of construction give, it is clear, results unsuited to modern European requirements. To maintain the building in a state of repair considered essential by Europeans or

those influenced by European ideas is impossible; dust and dirt from falling plaster and from the continual entry of workmen either to replace it or to open jammed doors or windows, make the building uncomfortable, and the damp of the ground floor makes the lower rooms unhealthy. Further, the building is highly inflammable and, in consequence, not fit to house those who carry on business after night-fall by artificial light.

DOORWAY, NEAR MANFALUT.

It is not, then, to be wondered at that important documents or to accommodate the changed conditions introduced by an increased inflow of foreigners have brought about some modifications to native Egyptian structural methods.

The defects of the ordinary Egyptian-built house being fairly obvious, it is not of course difficult to propose remedies. A more stable wall is needed; bond and imported hydraulic lime are therefore indicated. A drier wall could be ensured by the use of a damp-proof course of imported asphalt or bituminous sheeting. The foundation bed can be consolidated by various methods so as to reduce to a minimum the effects of the subsoil water level changes; or the foundations can be made of a rigid character capable of resisting the effects of movements. Imported steel joists can be used to replace wooden lintels over openings and wooden floors and roofs. Wooden beams built into the walls for bonding purposes can be omitted. By these means, a more solid, a healthier, and a more fire-resisting building can be erected. Such changes as these indicate the general effect of European influence on building in Egypt.

Up till a few years ago, it was a common practice to excavate the whole of the area to be covered by a building, and to lay down a thick raft of concrete. The concrete was laid in layers, and well rammed and watered. The ground was flooded before the concrete was laid, in order that any weak spots might show themselves. The raft of concrete has of late years been largely replaced by concrete piles. Holes about seventy-five centimetres across are punched in the ground by means of pointed weights dropped from a height. This results not only in forming a hollow shaft in the ground into which the concrete to form the pile is rammed, but also in compressing the whole of the area built over, and so in compacting the soil to a very marked extent. The ramming of the concrete into these hollow shafts causes the weight of the building to be distributed laterally, as well as vertically. The tops of the concrete piles, which are spaced about three metres apart, are connected by beams in reinforced concrete, and on these beams the walls are raised. This method has given, on the whole, satisfactory results. Broad spreading foundations of reinforced concrete have also given good results. How far time will confirm the wisdom of choosing such methods of construction is a matter for conjecture and speculation. In view, however, of the local difficulties in

getting trustworthy workmanship, it is difficult as yet to look with complete confidence on a system such as the reinforced concrete system, which depends to so great an extent on workmanship. Experience in Egypt has, however, brought, so far as I am aware, no evidence against its use either in foundations or as a means of constructing the beams which connect the head of concrete piles as just described. But it is clear that such a system should not be employed unless very special precautions in respect of supervision are taken. The desire to improve upon the loosely built and unsatisfactory native wall has brought about the use of mortars in which cements or imported hydraulic limes form the chief ingredients. Steel frame buildings are even beginning to make their appearance in Egypt, though it is too early to say with what result.

DAMIETTA.

Methods such as these have produced in Cairo and Alexandria a large number of buildings suitable for modern requirements. The introduction of new methods is by no means an easy task; nor is the result invariably successful. New methods bring with them the necessity for teaching a people of strongly conservative tendencies the meaning of things completely strange to them, and, occasionally, in direct opposition to their own traditions and practice. For this the foreign architect or builder must not only be equipped with a high degree of patience, but he must also be prepared to learn a good deal himself, more especially in view of the fact that his work is carried on in an environment the conditions of which he may not, at first, succeed in completely appreciating.

While it is very desirable, for reasons already given, to build with more rigidity than is possible by employing purely native methods and materials, it has been found that it is not always easy to determine the degree of rigidity which must not be exceeded. Almost as great inconvenience may, in certain circumstances, be caused by too rigidly built a wall or roof as by one which is too loosely put together. This point will be made clear by a few examples. Of the boundary walls enclosing various groups of buildings erected on a desert foundation near Cairo, some were built in bricks and cement mortar, others in bricks and local fat-lime mortar. Those built in cement mortar cracked vertically at intervals of from five to twenty metres throughout their length, while those built entirely in lime mortar were undamaged. It may be added that some walls were built in lime mortar, but with the top course of brick on edge set in cement mortar; wherever this was done the cracks occurred about five metres apart, the cracks extending only through the top three or four courses. Of two buildings near Cairo similar in every respect except as regards the combination of materials used, the one built in rubble stone and fat-lime mortar is uncracked, while the other built in well bonded brickwork and cement mortar cracked vertically at intervals. Thus the less rigid

structure gave a more satisfactory result than the more rigid; and the building constructed of a kind of rubble masonry which would, in England, be considered only fit for enclosure walls, and of mortar composed of sand and fat lime possessing no power of setting in the heart of the wall—in a word, a building which would at first sight appear to contain important structural defects—has stood better than the one which appeared to be in every way its superior, the bond being carefully attended to and the mortar capable of setting throughout the wall.

It is not possible to describe here in detail the result of the numerous experiments made recently in Egypt relating to expansion and elasticity of bricks and the temperature variation in walls; it can only be said that the general results of experiment and experience is to show that it is possible to overdo rigidity; or rather, perhaps, that rigid bodies of masonry must be designed, if cracks are to be avoided, so as to allow for movement, especially in the case of walls which are long in proportion to their height.

HOUSE IN DAMIETTA.

The necessity of allowing for movement may be further illustrated in the case of roofs. A roof constructed of steel joists and concrete, the concrete occupying the entire depth of the joists, was placed upon walls built in rubble-stone work and fat-lime mortar. In a few months the building was found to be seriously cracked, and in a manner which removed all doubt as to the cause, which could not be attributed either to masonry or foundation settlements, but to the stresses set up by temperature changes. These changes caused horizontal cracks at the roof level and diagonal cracks at the corners of the building, showing that the expansion of the roof had tended to push the corners outwards. Another case of a building which suffered from temperature changes acting on the roof may be described. The method of construction was as follows. The roof, which rested on walls of a brick and a half thick, consisted of steel joists and concrete covered with bituminous sheeting, the latter being protected by a layer of concrete sloped to throw off rain-water and finished against a parapet wall a brick thick set in cement mortar. The building was rather long and narrow in plan, and the results of expansion were naturally more marked longitudinally. The parapet walls at the ends of the building were thrust outwards several centimetres, and horizontal cracks appeared at the roof level on the long sides of the building. These cracks showed clearly the cumulative result of the expansion, it being only slightly marked in the middle of the long side, and becoming increasingly so towards the ends. It would be possible to multiply examples of improvements which have failed; of good work which proved to be bad. There are several buildings in Egypt entirely constructed of reinforced concrete. It was found impossible in some of them to prevent the roofs cracking until recourse was had

to the expedient of protecting them from the sun by a second roof. There are two buildings in Cairo of reinforced concrete which are said to behave at certain times of the year in a highly curious manner. A movement or vibration takes place sufficient to move pictures on the walls; the buildings are not cracked, perhaps they would be more peaceful if they were. No explanation of these movements has been forthcoming, but it is thought that they certainly must be connected with temperature changes.

There has been, and is no doubt still, a tendency to neglect the effects of these changes and to design without reference to them. Modern materials and methods of construction make it possible to build so as to allow considerable intensity of stress to be safely exerted without fear of collapse, and wall and pier construction, thin and meagre when compared with former work, is now possible without danger, if the ordinary stresses caused by the weight of the building or by the loads it has to carry are alone allowed for. The work formerly done by a wall of rubble stone and fat-lime mortar 50 centimetres thick can now be done by a brick and cement mortar wall of half the thickness, or, to take a more extreme case, by a reinforced concrete wall of only a few centimetres thick. Again, the work done by a steel floor with jack arches can now be done by a thin slab of reinforced concrete. But such thin and rigid methods are not unattended by dangerous, or at least highly inconvenient, results in Egypt, owing to the temperature conditions; and it is a question yet to be answered how far the modern tendency towards thinness and homogeneity of construction are applicable in that country. This question can only be answered by continued experiment and research.

DOORWAY, AKHMEIN, UPPER EGYPT.

In Egypt there is, as yet, no established tradition capable of providing a suitable and complete guide when building for the fulfilment of modern needs. It is not, then, surprising that European builders have met with some experiences neither happy nor expected. The problem before them is of a twofold nature. How, on the one hand, to build so as to fulfil modern requirements in regard to stability, fire resistance, health, maintenance, and repair; and, on the other, to keep within the limits imposed by local physical or climatic conditions. To find the middle way, and to make a satisfactory harmony between local conditions and requirements of foreign origin, must be an object of the architect as well as of other workers in Egypt. Something may be learnt from a study of native practice; but, owing to the great differences in the manner of life followed by the inhabitants of houses built in accordance with that practice and that followed by most Europeans, such a study will not take us very far. Even the most careful and sympathetic examination of native methods will not do much more than provide an explanation as to why buildings which present every sign of decay and dilapidation do not collapse more often.

The subject of which I have attempted to give a brief outline is, of course, a very large

one. It has been possible to treat it in a general manner only; and for this purpose discussion has been restricted to the more clearly defined manifestations of native and European tendencies, without touching upon the Levantine borderland between the two, and to describing what appear to be, on the one hand, the broader principles which seem to have governed building in Egypt in the past and, on the other, the general lines of development brought about by European co-operation in the affairs of Egypt.

DISCUSSION.

Mr. E. Guy Dawber, *Vice-President*, in the Chair.

Mr. R. WEIR SCHULTZ, rising at the invitation of the Chairman, said he had much pleasure in proposing a vote of thanks to Mr. Richmond for his excellent Paper, though he had no idea he should be asked to speak first as one who had an intimate knowledge of Egypt. It was true he had the pleasure of visiting Egypt over four years ago, and a most interesting experience it was. They were very fortunate in having Mr. Richmond to come and talk to them on Egyptian building methods, for, to his mind, there was no one better qualified than he to do so. It seemed only the other day, though it must be many years ago, that he had the pleasure of congratulating Mr. Richmond on the chance which had opened up to him of going out to Egypt to work with Mr. Somers Clarke on some of his investigations on Coptic monuments. After that, Mr. Richmond went to the Department for the repair of the Mosques, where they worked more than anywhere else, he thought, on the old traditional methods of the country. He must have gained very valuable experience there which must have been most useful to him afterwards. Later on he went to the War Office, where he had the opportunity of dealing with important buildings for barrack purposes. Then the Department of Public Works, knowing—for once—a good man when they saw him, secured his services, and there he had been, and is now, having risen to the top of the tree as Director of Public Buildings for Egypt. The Government of Egypt were to be congratulated on having such a capable and able servant. When he (Mr. Schultz) was in Egypt, he had the opportunity of seeing a number of the works which had been executed under Mr. Richmond's direction, and he must say that in every case the buildings were direct, straightforward, suitable buildings, done with great care, and in a manner suited to the purpose for which they were intended. The local conditions also had been as far as possible utilised. There was no attempt to copy forms which were of no use; no attempt to imitate the old patterns where such would have been out of place. It was a pity Mr. Richmond had not shown them that evening some of the modern buildings with which he had been connected. One of the great difficulties, as Mr. Richmond had said, was the putting up of buildings for Europeans by native workmen who did not understand the conditions under which Europeans lived. He, in company with Mr. Richmond's then colleague, Mr. Rodeck, went to see a house, a most delightful building, which Mr. Richmond had then just built for the Inspector of Antiquities at Sakhara. It was built by native workmen. They went by boat up the Nile, and got stranded on various sand-banks, and had several adventures. Night came on, and they had to anchor and sleep in the boat. Next morning they hired mules and went across country, sent their man to fetch provisions, and had a delightful native lunch in out-buildings near by. After that, the fun commenced: they went to inspect the building. There were most violent altercations, and his companion had a very bad time of it. He mentioned this to show the difficulties which must constantly occur in getting local people to work on methods which they did not quite understand. They had to suffer from that even in England very often. It was a pity Mr. Richmond had not time to tell them something more about native craftsmanship in woodwork, metalwork, plasterwork, &c., which they still did in Egypt. The craftsman in Egypt was still very much alive, and the tradition remained in many of the crafts. He spoke with great diffidence, because he was in the country for only a few weeks; and although he made an endeavour to see as much as possible of their methods, he could only see them rather superficially. He heard some time after his return that there was a movement to form a Department for Technical Education in Egypt, and they were looking for a good man in this country to go out and show the Egyptians how to become craftsmen. It was a pity they did not get some one in the country who had knowledge of the native methods, and who would try to perpetuate the good points about the old traditions. A very able man went out, a man imbued with European ideas about these matters, and he sent for certain models which had been made in a Technical School in London to serve as examples for the Egyptian craftsmen. These models were sent, but, he understood, the climate was too much for them, and they fell to pieces! In the most excellent museum at Cairo, where he spent many happy days, there were numerous beautiful examples of Arab craftsmanship; it was a pity those examples were not better known in this country. He should like to have said a good

deal more, but owing to the lateness of the hour he must refrain. He hoped Mr. Richmond would again, before long, come and talk to them on this interesting subject.

Professor FLINDERS PETRIE, in seconding the vote of thanks, said Mr. Richmond's Paper was interesting in several directions. It was extremely interesting as explaining in many ways the ancient craftsmanship and the methods which had been, perhaps, more before him (Professor Petrie) than other aspects. Again, it was extremely interesting as showing the sympathetic manner in which the necessities of modern times had been met. We had not to deal with European workmen there; very often we had not to deal with people who were capable of reading a plan, but we had to deal with them as they stood and the methods which were adapted to the majority of them. And that was a very limited factor, as he knew himself. The Paper was also interesting as showing the conflict of Western methods and Eastern methods, and how necessary it was to understand the reason of a thing before one criticised it and pulled it to pieces. In some respects he could say something about construction, because for a good part of his life he had set up mud-brick huts in a primitive manner, perhaps more than any other European had done, because they were wanted only for temporary purposes. So he had observed the nature of the material, and the necessities which had led the Egyptian into the line into which he had fallen. In Upper Egypt, they were told, the condition of the houses was much better than in Lower Egypt. He did not think that this was only a matter of climate, but of people. The Delta was Arab in its population. Upper Egypt was Coptic, and in many towns entirely Coptic. The town in Coptic Egypt was very different from the Mohammedan town. The streets were straight and well swept; one could see the people sitting at their doors, and the women doing their work; the whole thing, in fact, had a much more Western air than anything to be seen in a Mohammedan village. That was all reflected in the conditions of their buildings. He hoped therefore that a little credit would be given to the people as well as to the climate. With regard to the disadvantage of a desert site, he remembered that a number of houses were put on a desert site near Cairo, a charming open desert, healthy and with nothing to fear, as dry as a bone. They were built in an extremely wide watercourse, which drained down from the mountains twenty miles away. This lasted very well for two or three years; but one day there was a black cloud over the mountains, and shortly afterwards there were two feet of water in that site, and in a short time the whole of the houses were reduced to pianos, pots and pans, and wreckage. So in Egypt the surroundings must be looked to as well as the foundations. Wall facings had been referred to, and that is, for common mud-brick work, the greater part of the strength of the wall. After a mud-brick wall has been built, it can be set swinging several inches to and fro, and this can only be stopped by putting on a coating of mud-facing on each side, which acts as two sides of a girder, preventing the walls bending sideways. The stiffness depends on this coating of mud. He examined some of the most permanent coats of mud, those which were most successful, as he wanted to see the real structure. He found that the best mud-facing consisted of sand, with just enough mud to back each grain and thus to fill up the interstices of the sand. The grains were all in contact. The wall face was continuous, and when there was weathering of the wall the little bit of mud which backed every grain was protected by the grain of sand outside. It might get wet, but the mud still held the grain of sand intact. The mud might be wet or dry, it equally held the grains of sand. It was that form of mud mortar which was always to be aimed at. The Egyptian builder experimented for this. He made samples, putting a certain amount of mud and sand, and if it cracked it was no good; and he made another sample, until he got one which showed no cracks in drying. It showed how much care was required to carry out with success building work with native materials, and how successful those methods may be. These plaster walls would stand an enormous amount of rain, and immediately on that the hottest sun, so that it dried in half an hour. The elasticity of the walls had been referred to. The ancient Egyptian went further than the modern in that respect, because it was a custom in the XIIth Dynasty to build walls in a corrugated form, and thus there was no difficulty about the lateral contraction of the wall. They got as much stiffness as could be got for a reasonable amount of brickwork, and they got over the whole difficulty of contraction and expansion of the wall. The wall would get curved more or less as the foundations sank one way or the other; and they got elasticity and stiffness also. Another point to be noted is that when building in soft material like mud brick, with a low crushing-point, the flat arch would not do at all, because the pressure was so great. Therefore the Egyptian always built with a very high parabolic arch with a very small curve in the lower part of the sides, and rounded over with a small arch at the top. The Egyptian avoided the crushing strain caused by the flat arch. He had observed modern European builders miss this point; they turned round arches and were surprised they had to make them double the thickness that the Egyptian did in order to save crushing. With this material it was necessary to work with a high parabolic arch. With regard to the use of timber in the walls, that was a very ancient custom. Before the time of the Pyramids he had found large beams of

wood introduced, running diagonally through the materials, binding them together. Mr. Richmond had not mentioned the difficulty due to white ants. He believed they had been kept out of Alexandria, but in other parts he had known buildings riddled with white ants, particularly in Upper Egypt, where sometimes villages had been deserted owing to the walls being eaten out with ants. The people had had to move away and build elsewhere and start afresh. For practical purposes he soon found that petroleum oil would keep them away. One point which might be considered was the nuisance of salt working out all round the footings of the building and disfiguring the building. Salt only resided in the surface of the soil; there was but a small amount of salt, but it was found on the surface, where it accumulated owing to continual evaporation. Water might contain 1 in 10,000 of salt, and by the time a thousand volumes of water had come up and been evaporated they would have one-tenth of a volume of salt on the ground, and it lay on the surface. In ancient sites, blocks of granite were split into component crystals if they had been within two or three inches of the surface. And that suggests that while it is desirable in native work to keep the wall damp, as it is unless European cements are adopted, and if it is wished to maintain that general plasticity, it might be possible to do much good by putting a damp course not through the wall, but on the face of the wall, so that it can take up the moisture from the depths, while the salt from the surface is prevented from entering. It might be worth while to face the foundations to six inches above the ground with a damp-proof facing on each side for this purpose. He had seen walls of buildings which were lapped round at their bases by the Nile and were not affected by salt, and he had seen buildings which were two or three feet above Nile-level get a maximum of salt. Those were a few practical points which occurred to him on hearing this very interesting Paper, and he hoped that out of his great experience Mr. Richmond would give many more Papers dealing with the other questions which had been raised, and with details of the adaptation of West to East, which was always so interesting.

Mr. SOMERS CLARKE, F.S.A., said the Paper had been a great pleasure to him, because Mr. Richmond and himself had so often talked over these subjects, and now he saw them put into form. He wished to congratulate themselves and Mr. Richmond and the Egyptian Government on the fact that in Mr. Richmond they found a European who went out to Egypt but did not do what he regretted to say so many Europeans did—that is to say, think that all natives, as they called them, were more or less idiots, and that all their methods were foolish. It must be remembered that these people were highly civilised when we in this country were blue-painted savages. They had a long tradition behind them, not only traditions of the ancient methods of building, many of which existed to this day. Mr. Richmond had very clearly shown that a great number of things which we thought so clever and which were very suitable to our country were by no means so suitable when they were transported to Egypt. Mr. Richmond had spoken of masses of material cracking. There was one point he might venture to add to what had been said. He had not referred to the extreme alteration made in a mass of wall by dryness; a slow process. In an ordinary wall built of mud bricks and solidly constructed, a native thought that for a 75-centimetre wall one must allow two years at a high temperature to dry, though the thermometer was often above 100° F. It was evident that movement went on long after two years. It would be found that with a considerable length of wall and five or six windows at intervals of eight or ten feet, there was almost sure to come a vertical crack over the crown of each window; and he knew one case in which there were many of these. The wall yielded to contraction at the weakest point, which was over each window. He knew many buildings set upon an immovable rock foundation, yet in which these movements took place. The dryness contracted it, and it went on contracting. At first those who did not understand it considered that the building was in danger, but he thought the cracks were a safeguard. Mr. Richmond said that the ancient Egyptians were somewhat negligent of foundations, and he implied that they were so all through time, but he did not agree with him. From the XXVIth Dynasty, and when more European, chiefly Greek, influences came on, they began to make respectable foundations. There were some buildings in which there was more stone underneath the building than there was used in its construction; six or seven courses of masonry which bed two feet deep under the structure standing upon it. He might further remark that the ancients must have been conscious of the necessity of allowing for movement, for we never find such a thing as absolute rigidity. There were exceptions in the outer skin of the Great Pyramid. Those were of stones closely set, equal to the masonry of the Parthenon. But, behind that, the joints were very wide and were filled with mortar. And the high walls of the Temples were the same. There was, in fact, abundance of room for these masses of stone to expand and contract as the heat made necessary. But he would call attention to the curious effect which we get as a result of expansion and contraction. Take an architrave which has stood a couple of thousand years; naturally it has been exposed to the greatest changes of temperature. While the top of the stone beam is in a state of compression, the lower part is in strain; and we find the beams break not through the middle, but the lower edge chips off, forming a

sort of arch. The strain below causes this material to chip off until it assumes the form of a flat arch; and then it breaks through, and falls together, and so it continues as a flat arch of two stones.

MR. R. PHENE SPIERS, F.S.A. [*F.*], said that his experience in Egypt was of a different nature, and was connected with the aspect only and not with the construction of Egyptian buildings; but he had been struck, on hearing the Paper, by the fact that M. Choisy, in making studies in the curvatures in walls and trying to account for these curves, must have had in his mind some of these effects. The walls which he describes were often made with gaps, which M. Choisy thought were due to the expansion which Mr. Richmond described. It had been of the greatest interest to him to hear the Paper, and it would be of great interest to go through it in the light of what M. Choisy said, and see to what extent M. Choisy was justified in the conclusions at which he arrived. On the present occasion one was glad to be able to congratulate the Egyptian Government on the fact that they had in Mr. Richmond someone who would take care of the ancient monuments in Cairo. When he (Mr. Spiers) was there in 1866 the buildings were left to take care of themselves; and if stones fell into the street, many more were removed from the building to prevent them falling off and causing accidents. In that way the buildings had been destroyed. He remembered one day he had been drawing on the top of a mosque, and on the second day they refused to allow him to go into the place. But he dodged the keeper and managed to get again on to the roof. Next day he expected the same difficulty, but he was allowed to pass, and he thought the favour was due to his perseverance. But when he got there he found that the staircase had been taken down to the extent of ten feet, so that he could not go up again!

THE CHAIRMAN, in putting the vote of thanks, said the Meeting would agree that they had had an extremely interesting and instructive Paper. He, personally, had enjoyed it very much. And, in addition to the Paper, they had had a most gratifying discussion, by authorities who know the country and could speak with knowledge. The Paper showed an enormous amount of research on Mr. Richmond's part, and doubtless he would like to answer some of the questions put by the various speakers.

MR. RICHMOND, responding to the vote of thanks, remarked that Professor Petrie had made some very interesting observations on the desirability of having surface vertical damp-proof courses. They had tried that in one or two old buildings in order to endeavour to preserve them a little longer; and, so far as their experience had gone, it had been a great success. They had put a layer of bituminous sheeting about 1 metre 20 centimetres up the wall, and built against it a half-brick wall set in cement mortar. This, as Professor Petrie said, prevented evaporation, and consequently prevented the crystallisation of the salts. With regard to what Mr. Somers Clarke had said about foundations of ancient Egyptian buildings, the point he (Mr. Richmond) had in his mind was that there was no evidence to lead them to believe that the Egyptians ever went down to the level of permanent saturation, which would appear to give the best chances of solidity and would provide a foundation more in agreement with the massive character of the superstructure. But, of course, it was futile to criticise the foundations of buildings which had been standing thousands of years. He wished also to explain that his position, referred to by Mr. Phené Spiers, as regards the preservation of the Arab monuments had been a subordinate one. He had had but a modest share in the work. He had enjoyed the privilege some fifteen years ago of working for a few years under Herz Bey, the very capable Chief Architect to the Committee for the Preservation of Arab Monuments, to whose care and knowledge the present satisfactory condition of the Saracenic monuments of Cairo was due.

LINCOLN CATHEDRAL: THE NEW READING.

By John Bilson [*F.*], F.S.A.

I have read very carefully Mr. Watkins' communication in the last number of the Journal (pp. 510–518). As it seems to me that there is nothing in it which affects the conclusions adverse to his theory set forth in my previous communication (pp. 464–475), I should not have trespassed further on the space of the Journal, had it not been that Mr. Watkins either misunderstands or questions the accuracy of some of my statements of fact. It is very desirable that there should be no confusion as to the actually existing facts, and I wish therefore to add a few remarks on these and a few other points arising out of his last communication, without again going over the whole ground.

1. Mr. Watkins says (p. 515) that I questioned the accuracy of his plan and the basis on which it was set out—"because he thinks it does not exactly fit in with every feature and minute detail of the plan and dimensions he has himself taken." This is not so. What I wrote (pp. 465–6) was something entirely different. In support of their view that the choir aisles were not originally intended to be vaulted, Mr. Bond and Mr. Watkins asserted that the vaulting shafts did not centre with the buttresses (an erroneous statement which Mr. Watkins repeats on p. 516), and that the setting-out line did not give the centre of the present aisle walls, but the centre of the aisle walls as they would be were the present trefoiled arcading removed (p. 38). I expressed no opinion one way or the other on Mr. Watkins' method of setting-out. What I said was that their inference from their setting-out line was not justified by the facts, and, in proof of this conclusion, I gave the dimensions on the line of the piers which have been least altered. Mr. Watkins seems to imagine that these measurements were taken on the line of the western piers of the eastern crossing, and he says (p. 516) that he is afraid that I "had forgotten or failed to notice" that the northern pier was entirely rebuilt when the Angel choir was erected. As there is no double arcade to measure to at this point, I should have thought that it would have been obvious that the measurements which I gave were not taken on this line, even if I had not said quite clearly (p. 466) that they were taken on the line of "the first pair of piers west of the eastern crossing," which is Mr. Watkins' "third pier counting from the great tower." I pointed out that, as the difference between the two centre-lines of the aisle wall, with and without the arcade which they suppose to have been a later addition, was only some 4½ inches (it may be 5 inches), their inference would only be justified if the premisses were accurate within very narrow limits. Mr. Watkins' measurement, taken on the line of the same pair of piers, of 43 feet 3 inches for the main span is 7 inches wrong, and his total width of 85 feet 11 inches is, I think, more than 1 foot wrong.* The only importance which I attach to the precise measurements is that they afford the means of testing the inference built upon them, and this, I repeat, is not justified by the facts.

2. Mr. Watkins says that there must be some mistake in my statement that the bases of the choir vaulting shafts are "bedded in the old Norman wall below the stall floors" (p. 517). My statement was confined to one pier (p. 468, col. 1, note ‡), which was the only one which I had then seen,† and the existing plinth of the vaulting shaft on the choir face of this pier is, as I said, built upon (not "bedded in") the wall-foundation of the eleventh-century choir,‡ as also is the plinth of the shaft on the next pier eastward. The third pier stands entirely clear of the early foundations.§ This point, however, is not very material in itself, but what is material is that there is nothing to indicate that the rubble foundation has been "cut into" to receive these plinths (as the authors stated on p. 38), and that there is nothing whatever to indicate that these plinths are not of the date of the piers themselves.‖

3. Mr. Watkins agrees that the shafts on the face of the main piers on the west side of the eastern transepts are original, but he says that "they were not

* Since the publication of Mr. Watkins' last communication, I have remeasured the widths on this line. The width of the main span, from centre to centre of piers, is 43 feet 10 inches (as I stated), measured on the west face of the piers over the canopies of the choir stalls. The half-width of the pier to outside of shaft is 2 feet 2¼ inches to 2 feet 2½ inches. The width of the north aisle, from the face of the pier shaft to the face of the inner arcade, is 18 feet 3¼ inches, and of the south aisle 18 feet. The thickness of the aisle wall, including only the inner arcade, is 2 feet 7 inches to 2 feet 8 inches. There is room for some small discrepancy in these widths across the aisle, for the thicknesses of the aisle walls can only be measured through the windows.

† I have since found that there is another means of access to these plinths of which I was not then aware, and I have now examined the three which remain, to the three piers on the north side of the choir.

‡ The southern face of the eleventh-century wall-foundation actually exists as far westward as the centre of this pier.

§ It is not possible, without removing the present grouted rubble surface, to say precisely where the eleventh-century foundation ends and the later foundation begins. In the recent excavations, where it was found that eleventh-century foundations had been extended in the thirteenth century, it was not possible to distinguish any join in the rubble.

‖ With regard to the choir vaulting shafts, I pointed out that the plan of the pier, with its four cardinal faces hollowed out, was obviously designed for four shafts. Mr. Watkins (p. 516) adheres to his contention that there were only three shafts originally, thus making the plan quite irrational, and his reason is curious. There could not have been a fourth shaft, because in the absence of vaulting there would have been nothing for it to support. That is, the conclusion which he seeks to establish (which I hold to be entirely erroneous) is urged as a proof that the facts must be—something that accords with his conclusion. The plan of the pier was correctly interpreted by Professor C. H. Moore in his *Gothic Architecture* (2nd edition, 1899), pp. 204–5, and fig. 111.

constructed for vault shafts but for roof shafts" (p. 517), and he says that "they have been spliced (*sic*) and lengthened just below the abaci of the pier capitals to which they are attached, and just to the depth of the other capitals of the smaller shafts which cluster round the piers." But in the shaft in the north-east transept the short length of shaft is decidedly less in height than the adjoining capital, and the making-out of Purbeck shafts with a short length of this kind can be seen in many places where there is no question of roof shaft, vault shaft, or adjoining capital. Mr. Watkins says that these shafts "were, of course, continued down to the floor, as all the other roof shafts appear to have been where unobstructed by triforium arches or windows or other openings." The positions of these shafts are indicated at C on my outline plan of the south-east transept, and by the short dotted line in the corresponding position on the plan of the north-east transept (fig. 2, p. 469). It will be seen that each of these shafts, if continued upwards as a roof shaft, would pass in front of the middle of one of the "pigeon-holes" which Mr. Watkins supposes to have been triforium openings,* and that the shaft in the south-east transept, if continued in this manner, would also pass in front of the middle of the arched recess above the vault which Mr. Watkins believes to have been a clearstory window.† Nevertheless, and in spite of my fig. 2 (p. 469), Mr. Watkins writes that, with regard to the choir transepts, there seems to him "no difficulty whatever, and nothing that could prevent our suggestion that a former triforium existed before the present one was constructed" (p. 517). It would be interesting to see his restoration of the internal elevations of the eastern transepts.

It is unnecessary to emphasise here the decisive proofs, which I discussed in my former communication, that this supposed reconstruction of the triforium of the choir never took place, but I cannot pass without comment the way in which Mr. Watkins meets one of these proofs. Mr. Bond and he stated in their *Notes* (p. 46) that the apexes of the "pigeon-holes," wide and narrow, were at the same level, and they seem to be so shown in Mr. Watkins' drawing of April 22 of the "original elevation" (fig. 18, p. 511). The wide "pigeon-holes" behind the vaulting shafts in fact step down with the floor of the clearstory passage, and Mr. Bond and Mr. Watkins gave quite correctly the reason why the passage floor is stepped down—to give headway under the abutment of the vault (p. 46). Mr. Watkins now says (p. 517) that "further investigation" has convinced him that the single openings in the narrower bays (of the supposed triforium) were lower than the grouped openings in the wider bays—not because they followed the stepped floor under the abutment of the vault, but in order to "heighten the expression of the larger openings and to avoid an otherwise monotonous interior." But he will have to lower the springing lines of these wider arches as well,* before his fig. 18 will agree with the existing facts.

4. Mr. Watkins does not attempt to meet the difficulties which his reconstruction theory involves in the great transepts. In a previous letter (p. 306) he stated as a proof that the "pigeon-holes" were never intended to be relieving arches, "that they were omitted from the end bays of the central transepts from the very first, for the simple reason that these bays were not completed until after it was decided to vault the church, and the lancet arcading of the triforium was therefore not required, nor was it ever built there." I have already called attention to this statement,† but, as Mr. Watkins has not taken the opportunity of explaining or correcting it, I must point out that the presence of arched openings in the double bay on the east side of each transept, next to the piers of the great crossing, affords yet another absolutely decisive proof against his triforium theory. In the arcade on the inner (or transept) face of the clearstory of each of these double bays, the jamb next the crossing, the central pier, and both arches, were rebuilt after the fall of the tower in 1237 (or 1239). In the outer wall of the clearstory immediately above the floor of the passage, there is an arched opening (or "pigeon-hole") in each half of these bays, though they are now walled up. According to the authors' theory, these are the arched heads of their supposed original triforium. But they are found *in the wall which was rebuilt after the fall of the tower.*‡

5. With regard to the arched recesses on the inside of the clearstory walls of the choir, above the springings of the vault, I stated that there was a difference of 1 foot 11½ inches between the levels of the springings of the arches of the windows and external arcade and that of the arched recess in the bay which I had measured, and I added that this fact proved that these recesses could never have formed part of the same composition as the windows and external arcade (p. 474). Mr. Watkins says (pp. 517–8) that there seems to be an error here, and that it is impossible that such a difference should exist, for the strange reason that "the radius of the two arches *appears to be* identical," and for another reason which seems still more strange; how a comparison of my *plan* (fig. 6, p. 474), which of course shows no heights, with Mr. Sharpe's *elevation* (fig. 4, p. 41), which does not show the internal recesses at all, can prove anything whatever about

* That in the south-east transept is shown at C on my fig. 4, ii. p. 472.

† At C on my fig. 5, p. 473.

* See p. 471 ante.

† P. 470, note ‡.

‡ I am certain of this as regards the north transept, and I believe it is the same in the south transept. The two blocked openings exist in the corresponding double bay of the south transept, and the corresponding parts of the inner arcade have been rebuilt after the fall of the tower, but I have not examined the outer wall on this side from the passage itself.

the relative heights of the arch springings, I cannot conceive. The relative positions of the windows and external arcade and of the internal recess in the bay of which I have already given a plan are shown on the outline elevation, fig. 7.* The difference of the springing levels *is* 1 foot 11½ inches, and this has been verified by independent measurement. Mr. Watkins will have to revise his fig. 19 (p. 511), before it will accord with the existing facts.

6. My surmise that the "new reading" would involve the supposition of changes in the clearstories as drastic and amazing as anything else that the authors' hypothesis suggested has been amply confirmed by Mr. Watkins' description of the reconstruction which he imagines to have taken place. According to him, the whole clearstory wall was originally built of the full thickness which it now shows below the vault, and it was subsequently thinned by the removal of a thickness of 11 inches † on each side of the church, from its internal face. This could not be merely a question of the "stripping" of window dressings, as Mr. Watkins suggests, but it must have involved the refacing of the whole internal face of the clearstory wall above the vault, which is in rubble in the north-east transept and in part of the south-east transept, and in ashlar elsewhere in this transept and in the choir. Such an operation is quite incredible, and is absolutely inconsistent with the existing facts. Mr. Watkins, indeed, says that "there are some rough places in the wall still remaining from where these arches were torn away, as it were, round the upper parts of the vaults that have never been refaced nor made good" (p. 513). After careful search, I have completely failed to find any such place, nor indeed is it easy to understand why any such should exist, for the cutting-away of a thickness of 11 inches from the face must inevitably have involved complete refacing, unless the walls had been left rough when cut away, which is not the case. Mr. Watkins asks why, unless his theory is true, did the builders put any ashlar work at all above these vaults. But he has stated that the nave was intended to be vaulted from the first, and the clearstory walls of the nave above the vaults are faced internally with ashlar. Although Mr. Watkins asserts that there was no rebuilding at all either inside or outside (p. 513),‡ what his clearstory theory involves, as he explains it, is the "stripping" of a thickness of 11 inches from the internal faces, the walling-up of the windows over the main piers and the substitution of the external arcade of two arches, the alteration of the side arches of the internal arcade, and the lowering of the clearstory floor and string by some feet, with the refacing of the wall below the windows—all this was done, and that too without leaving any marked indications of the truly marvellous transformation which had been effected.

There is, however, another proof, which has not yet been noticed, that these arched recesses above the vaults are not blocked clearstory windows. On each side of the angle between the south-east transept and the choir there is an arched recess of the same description as the others, except that these two recesses do not extend downwards below the springings of the arches. I give their precise dimensions below,* so that anyone can plot them in plan and elevation for himself. The apexes of their sharply pointed arches are at about the same level as those of the adjoining recesses, the arches are of the same face-width, and their masonry is of precisely the same character, with precisely the same description of tooling. They are placed close to the angle, and behind each recess is the full length of the wall which abuts at right angles to the wall in which each of them is found. It is

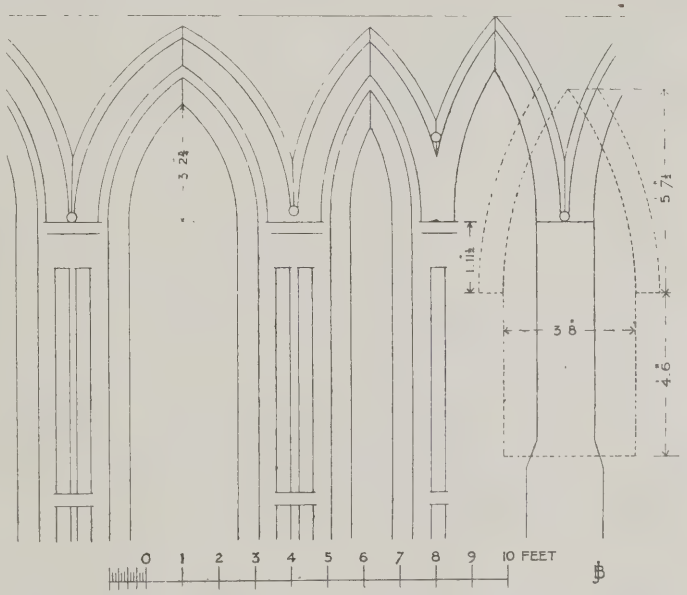


FIG. 7.—OUTLINE ELEVATION OF CHOIR CLEARSTORY, THIRD BAY FROM EASTERN CROSSING.

* This outline elevation, plotted from actual measurement, is only intended to show these precise relative positions, and does not show the "ventilators."

† In the bay of the choir which I measured, I made the difference of thickness to be 9 inches.

‡ Mr. Watkins, however, himself speaks of "rebuilding" more than once in the later part of his last communication (p. 518).

* Each of these recesses is 2 feet 2¼ inches wide at the sill, 3 feet 4½ inches in height from the sill or springing of the arch to the arch-soffit at the apex, and 1 foot 2½ inches and 1 foot 3¼ inches in depth respectively. The measurement from the angle of the wall to the nearer side of each recess is 1 foot 8 inches, and to the further side 3 feet 10¼ inches. The two walls which meet at right angles at this angle are 3 feet 8½-8¾ inches in thickness.

obvious, therefore, that they can never have been blocked windows,* nor indeed anything but what they now are—arched recesses, evidently designed to lighten the structure.

The idea that Lincoln was designed, and built so far as its eastern parts are concerned, as a wood-ceiled church is one which is (as Professor C. H. Moore truly said years ago) unsupported by evidence, and contradicted by the character of the entire system. In fact, Messrs. Bond and Watkins' first impression that the reconstruction of the triforiums and clearstories which they have put forward was "an amazing thing," which seemed to them for a long time to be "wildly improbable," was far truer than their second thoughts. This imaginary reconstruction was recognised at the outset as inherently improbable by Professor Lethaby and Mr. John Codd. It is emphatically contradicted by some of the very facts which were believed by its authors to support it; the more closely it is examined, the more impossible it is seen to be; and it is entirely opposed by the clearest possible evidence in the structure itself.

REVIEWS.

Mr. WATSON'S BUILDING STONES.

British and Foreign Building Stones: a Descriptive Catalogue of the Specimens in the Sedgwick Museum, Cambridge. By John Watson. 8o. *Cambridge,* 1910.

British and Foreign Building Stones is the simple title of a new and important work by John Watson. Primarily the work (published by the Cambridge University Press, price 3*s.*) is a descriptive catalogue of the extensive collection of building stones in the Sedgwick Museum at Cambridge. In this descriptive catalogue the chemical properties of most of the specimens are given, and the weight per cubic feet as well as the crushing weights. The credit for the formation of this collection, probably the finest in the world, comprising as it does considerably over a thousand specimens, is due to Mr. Watson, and it is gratifying to note that Cambridge University has conferred a well deserved Honorary M.A. degree upon him in recognition of his labours.

The book is one which should appeal especially to architects. It is in the judicious selection of a suitable building stone and its proper application that the lasting power or durability of the structures is to be attained. If architects in the past had had this information now so carefully and scientifically compiled by Watson, there is no doubt that many buildings of great architectural importance would have been preserved to us in a more perfect condition than we find them to-day.

It is often stated that neither the paper nor the ink of modern books will last one hundred years, and what is true of our literature is in a large measure true of our buildings. The importance therefore of the subject dealt with by Watson cannot easily be over-rated. As an example, he directs attention to the colleges at Oxford: those erected in the thirteenth, fourteenth, and fifteenth centuries, when the Taynton Stone of the great oolites of Oxfordshire was used, are now in a better state of preservation, the mouldings being sharper and less weathered, than those buildings erected in the seventeenth, eighteenth, and nineteenth centuries which were built with stone from the Upper Corallion beds quarried at Headington Hill near Oxford.

This work, taken in conjunction with the extensive collection of building stones in the Sedgwick Museum, should prove a sufficient guide to architects in the important question of the selection of a suitable building stone. Architects should be grateful to one who, though not an architect himself, has patiently laboured in the raw material, and finally, and ungrudgingly, given to them the benefit of his research. Again, the author has sought for, and found, the quarries which supplied the stone to many of the cathedrals and important buildings in this country. This in itself is a useful work, for, in the absence of documentary evidence, it has entailed an immense amount of investigation.

Finally, it is interesting to know that the University of Cambridge has recently, for the first time in the history of the ancient universities of England, put into its official curriculum a course of training in the history and theory of architecture and the allied arts. The benefit of the training which is now being afforded at Cambridge in this direction will be greatly enhanced by the fact that the University is the possessor of this unique collection of building stones.

We congratulate John Watson on his successful work and on receiving the honorary distinction which has so recently been conferred upon him. We also congratulate the University of Cambridge for having inaugurated the course of architectural training in its curriculum, and on being the possessor of Watson's collection of building stones.

George Hubbard, F.S.A. [*F.*].

PHOTOGRAPHS OF BUILDING STONES.

Visitors to the Library should not fail to look through a recent important acquisition which the Institute owes to the Science Standing Committee, a volume, or rather album, made up of a remarkably fine series of carefully mounted photographs, representing thin slices of building stones magnified thirty diameters, with explanations and descriptive notes. The explanatory and descriptive parts of this unique work are in manuscript—a beautiful specimen of the penman's art—and the whole has been most tastefully arranged under the super-

* It is hardly necessary to point out their identity of character with the arched recesses above the floor of the clearstory passages, behind the vault-springings.

vision of Mr. Matt. Garbutt and Mr. Alan E. Munby, respectively Vice-Chairman and Hon. Secretary of the Science Committee, assisted by Mr. Howe, of the Geological Museum. The origin and purpose of the work are thus explained in a Preface by Messrs. Garbutt and Munby :—

The Museum of Practical Geology, Jermyn Street, W., has recently undertaken the preparation of a valuable collection of rock sections, which include the most important building stones used in this country.

Through the medium of the Board of Education photographs of these sections are now obtainable by the public, and it was resolved by the R.I.B.A. Standing Committee on Science (then under the Chairmanship of Mr. Max Clarke) to recommend the purchase of a series of such photographs, to be mounted in a book, as an addition to the Library. The Council having made the necessary grant, the Hon. Secretaries of the Science Committee were instructed to select the illustrations and to prepare the volume.

The photographs, which are taken direct from thin slices of the actual stones magnified thirty diameters, and which thus represent the ingredients directly comparable in size, are arranged under the headings "Granites and Allied Stones," "Sandstones," "Limestones."

Under each illustration will be found a short description, for which the Committee have to thank Mr. J. Allen Howe, the Curator of the Jermyn Street Museum.

Though stones as natural products show gradations and local variations which render those more closely allied distinguishable with difficulty even by an experienced mason, the differences between stones of varying origin are quite marked. The crystalline granite, the fragmental sandstones, the oolitic limestone are readily distinguishable even in hand specimens, while the results of microscopic investigation here represented photographically make such distinctions as the dolomitic rhombs of Mansfield Woodhouse, the calcified granules of Portland Stone, and the fragmental characters of Beer Stone, with its entire absence of oolitic structure, easily discernible.

These photographs should be studied in association with hand specimens of the corresponding stones, and some elementary knowledge of geology and the principles of petrology is obviously necessary for an appreciation of any but the more superficial distinctions. At the conclusion of a brief Introduction for the benefit of the student, which follows this Preface, some sources of this knowledge are indicated.

Mounted sections of actual stones suitable for microscopic examination can be prepared for about eighteenpence, and do not require an elaborate microscope for their study; there is, therefore, no excuse for forgoing the benefits of this method of investigation in the process of selecting a building stone for any important purpose, more especially in the not infrequent cases in which architects are called upon to make a selection from several local stones.

A further contribution to the work by Mr. Munby consists of a valuable chapter entitled "Introduction to the Study of Building Stones," which describes the formation of stones, and enumerates the leading characteristics of a few of the minerals which compose by far the greatest part of all stones. How important the study of the subject is to an architect who has to select the materials for his building may be gathered from the following passages taken at random from Mr. Munby's Introduction :—

Iron pyrites—chemically, sulphide of iron—is perhaps the greatest enemy of all natural mineral building materials. Yellow in colour and metallic in appearance it is easily recognisable, and occurs in small particles or in cubic or bluntly pointed crystals. When finely disseminated, it is particularly liable to decomposition, producing rust with expansion and sometimes therefore disruption. At the same time sulphuric acid, which decomposes other minerals, is produced from the sulphur liberated. Red stains surrounding iron pyrites indicate that decomposition has already set in. This mineral has a very wide vogue, occurring in granites, limestones, and sandstones. Pyrites has been known to produce a pink tint in white marble on exposure owing to oxidation.

In conclusion, it may be stated that the character of a building stone depends chiefly upon its physical structure and its mineral composition. In granitic stones the absence of decomposition, particularly of the felspars and of such minerals as iron pyrites, should be ascertained; while in freestones, the nature of the infilling material, which should not be earthy, the proximity of the grains when the infilling is not wholly crystalline, and (in sandstones) the angularity of the fragments are perhaps the most important considerations. The use of a stone, more particularly when composed to any extent of carbonate of lime, must be considered with reference also to locality, for where much coal is burnt sulphuric acid is always present in the suspended moisture of the atmosphere. . . . .

An examination of the sandstones will show how large a proportion of felspar many contain, and that therefore a study of granitic minerals is essential for the true appreciation of the quality of these fragmental stones. As quartz is itself imperishable, it is the nature and coherence of the infilling minerals which is here of most importance, but it will be observed that the quartz particles in those sandstones which take a leading place among this class of building stone possess considerable angularity.

Among the limestones several marked types present themselves. The oolitic stones, such as Ketton, Portland, and Bath, are easily distinguishable, and it will be further observed that in Portland Stone the infilling calcite occurs in single crystalline masses, whereas in the Bath Stones this infilling, though still calcite, is granular, being made up of many individual crystals, which may explain the superior weathering properties of the former stone. Other limestones, such as Totternhoe and Beer (the latter sometimes fraudulently substituted for Portland), will be seen to be composed of a mass of shell fragments and to present no oolitic structure. Such stones have but small weathering resistance.

The Introduction concludes :—

In the pursuit of this study the student may be referred to *The Geology of Building Stones*, by J. Allen Howe (Arnold, 1910, 7*s.* 6*d.*), which contains much valuable matter in a compact and palatable form, and also a list of works bearing on this subject. An older but still standard work dealing with British building stones, in fact the only book which can claim this exclusive title, is *A Treatise on Building and Ornamental Stones*, by E. Hull (1872). In the R.I.B.A. Journal a Paper entitled "The Examination

of Building Stones," by H. W. Burrows (Vol. IX., 1893), gives some useful information; while a Paper on "Building Stones," by A. T. Walmisley, appears in *The English Mechanic and World of Science*, 6th and 13th August 1875. Mr. Walmisley has also kindly supplied the following references: *Blasting and Quarrying*, Part II., by General Sir J. Burgoyne [Crosby Lockwood]; *The Builder*, Student's Column, "Our Building Stones" (1886), and "Structure and Physical Properties of Building Stones" (1894); *The Builder*, 14th March 1885, "Building Stones," by John Slater. More useful information will be found in *The Quarry*.

The Science Committee at their Meeting on the 11th May last passed the following resolution:—"That the cordial thanks of this Committee be tendered to Mr. Matt. Garbutt and Mr. Alan E. Munby for the great amount of care and time they have devoted to the preparation of the book of 'Micro-Photographs of Building Stones,' and also to Mr. Howe for the assistance he has rendered so willingly in its preparation."

DECAY IN STONE.

Mr. Alan E. Munby desires to draw the attention of those interested in the supply, use, and preservation of building stones to the efforts of an International Committee to collect information in order to determine the various causes producing decay in stone, more particularly the effect of mortar as influencing deterioration.

The Committee, which is composed of members of the International Association for Testing Materials, and the labours of which are officially recognised by the Royal Institute of British Architects, held a meeting last October, under the presidency of Professor Van der Kloes, and made some careful investigations of the stonework of many important buildings, including Cologne Cathedral under the guidance of its architect, in Holland and Germany. As a result of this meeting the following series of questions has been circulated among those interested with the object of collecting such information as may lead to a proper understanding of the problems connected with the decay of stone under varying conditions:—

1. Nature of building.
2. Situation (*e.g.* address, nature of surroundings, aspect).
3. Material (*e.g.* kind of stone or brick).
4. Date of building (or part under discussion).
5. Mortar used (*e.g.* composition, proportion of sand, analysis or means of obtaining the same).
6. Nature of defect (*e.g.* incrustation, surface scaling, efflorescence, loosening, bulging of half-brick thickness).
7. Suggested cause (*e.g.* percolation of water, frost, defective stone, brick, or mortar, old bond timbers, smoky atmosphere, action of sea water).

Mr. Munby appeals to members to give any details that may be at their disposal by way of answers to the above, or to preserve the list of questions with a view to the possibility of future assistance.

Any details (which will be treated as confidential if desired) should be addressed to the President of the Committee, Professor A. J. Van der Kloes, Delft, Holland, or to Mr. Munby himself.

9 Conduit Street, London, W., 17*th June* 1911.

CHRONICLE.

The Annual Elections.

At the Business General Meeting of Monday, 12th inst., the Officers, Council, and Standing Committees for the ensuing Session were declared duly elected, in accordance with the Scrutineers' Reports, as follows:—

The Council.

President.—Leonard Stokes.

Vice-Presidents.—Reginald Blomfield, A.R.A.; Edward Guy Dawber; Ernest Newton, A.R.A.; John W. Simpson.

Hon. Secretary.—Henry Thomas Hare.

Past-Presidents.—Thomas Edward Collcutt; Ernest George, A.R.A.

Members of Council.—Walter Henry Brierley; Walter Cave; Max Clarke; William Flockhart; James Sivewright Gibson; John Alfred Gotch; William Curtis Green; Edwin Thomas Hall; George Hubbard; Arthur Keen; Henry Vaughan Lanchester; Edwin Landseer Lutyens; George Halford Fellowes Prynne; Halsey Ralph Ricardo; Sir Alfred Brumwell Thomas; Edmund Walter Wimperis; William Woodward; Percy Scott Worthington.

Associate Members of Council.—Sidney Kyffin Greenslade; Walter John Tapper; Harry Inigo Triggs; Septimus Warwick; Herbert Winkler Wills; Arthur Needham Wilson.

Representatives of Allied Societies.—Henry Clement Charlewood (Northern Architectural Association); Sydney Decimus Kitson (Leeds and Yorks Architectural Society); Edgar Wood (Manchester Society of Architects); James Jerman (Devon and Exeter Architectural Society); John Brightmore Mitchell-Withers (Sheffield Society of Architects and Surveyors); Albert Edward Murray (Royal Institute of the Architects of Ireland); William Fleming Wilkie (Dundee Institute of Architecture); Cecil Locke Wilson (Cardiff, South Wales, and Monmouthshire Architects' Society); Joseph Foster Wood (Bristol Society of Architects).

Representative of the Architectural Association.—Gerald Callcott Horsley.

Auditors.—John Hudson; William Henry Burt.

The Standing Committees.

Art.—Fellows: Cecil Claude Brewer; Walter Henry Brierley; Walter Cave; William Flockhart; William Adam Forsyth; Gerald Callcott Horsley; Thomas Geoffry Lucas; Edwin Landseer Lutyens; Ernest Newton; Edwin Alfred Rickards.—*Associates*: Sidney Kyffin Greenslade; John James Joass; Walter John Tapper; Harry Inigo Triggs; Septimus Warwick; Arthur Needham Wilson.

Literature.—Fellows: Frank Thomas Baggallay; John Alfred Gotch; William Curtis Green; David Barclay Niven; George Halford Fellowes Prynne; Halsey Ralph Ricardo; Charles Sydney Spooner; Sir Alfred Brumwell Thomas; Edward Prioleau Warren; Percy Leslie Waterhouse.—*Associates*: Walter Millard; Herbert Passmore; Charles Edward Sayer; Cyril Wontner Smith; Arthur James Stratton; Herbert Winkler Wills.

Practice.—Fellows: Robert Stephen Ayling; Howard Chatfeild Clarke; Alfred William Stephens Cross; Matt. Garbutt; Albert Walter Moore; Charles Stanley Peach; Sydney Perks; Herbert Duncan Searles-Wood; Henry Tanner, Junr.; William Woodward.—*Associates*: Kensington Gammell; John Nixon Horsfield; Charles Edward Hutchinson; Herbert Hardwicke Langston; Herbert Shepherd; Harold Arthur Woodington.

Science.—Fellows: Harry Percy Adams; Max Clarke; Frederic Richard Farrow; Ernest Flint; Horace Gilbert; George Hornblower; George Hubbard; John Murray; Ravenscroft Elsey Smith; William Henry White.—*Associates*: George Leonard Elkington; Charles John Marshall; Alan Edward Munby; Digby Lewis Solomon; Ernest William Malpas Wonnacott; Ernest Alexander Young.

The Scrutineers' Reports giving details of the voting form part of the Minutes, pp. 563 and 564.

ST. PAUL'S BRIDGE.

Recommittal of the Corporation of London (Bridges) Bill.

The strong protests which have been made by the Institute, by eminent artists, and the Press generally against the St. Paul's Bridge scheme have resulted in the Corporation Bill being sent back to Committee for reconsideration, by 156 to 99 votes. On the motion for the third reading, Mr. Philip Morrell, Member for Burnley, moved as an amendment: "That the Bill be recommitted to the former Committee in respect of the clauses which relate to the construction of a new bridge between Blackfriars and Southwark bridges; that it be an instruction to the Committee on the recommitted Bill not to agree to any scheme for the construction of the proposed new bridge until they are satisfied, first, that the scheme has been prepared under the advice and supervision of a competent architect or architects chosen from among the leading architects of the day; and, secondly, that the scheme, both in respect of architectural design and convenience of traffic, is the one best adapted to the public needs and to the character of the site."

The following is abstracted from *The Times* report of speeches in the House of Commons against the Corporation's scheme:—

Mr. Morrell said that the scheme for the construction of this new bridge, at an estimated cost of £2,250,000, had not been sufficiently considered from the public point of view and was not supported by a sufficient weight of evidence from those best qualified to speak on architectural town planning. In a great national concern of this sort the Corporation ought not to spend what was in effect public money without consulting the best expert advice. Those who voted for his motion would not commit themselves to any particular alternative scheme. All that he asked for was time to consider the best advice that could be obtained. . . . The public interest in this matter was to see that nothing was done to impair the architectural beauty of London and to secure convenience of traffic, and the two were not in any way incompatible. These objects could only be secured by doing what the Corporation had not yet done, and that was by submitting the matter to the best possible advice. This was the greatest scheme of town planning that they were likely to have for some time to come, but, so far from any expert in town planning having been consulted, the scheme had been prepared on the advice of engineers alone. The promoters of the Bill stated that under their scheme there would be an imposing thoroughfare dominated by the dome of St. Paul's. There never was a more misleading description of a scheme brought before the House. The only view of St. Paul's, if it were seen at all, would be a view of it over the intervening houses. Then it was said that the scheme ought to be accepted because it would be so good for traffic. But a direct rectangular crossing was not the best way of getting two great streams of traffic past one another. They were much more easily dealt with by means of an elbow. The rectangular scheme involved sixteen points of collision, whereas the elbow arrangement only involved six points of collision. Any one who had seen the great improvement at Marble Arch or Hamilton Place would appreciate the difference. It was said that the alternative proposals to the scheme of the City Corporation would necessitate the construction of a skew bridge across the Thames. People talked as if that made any alternative scheme impossible. It was not necessary in order to carry a road straight up to St. Paul's that there should be a skew bridge, but if the bridge were not quite at right angles to the river was that really to be considered an insuperable and fatal objection to any alternative scheme? Some of the finest bridges designed by Brunel crossed rivers obliquely. Another objection to the alternative scheme was that the tramway proposal could not be carried out. But did the House realise that the proposed subway would be close to the foundations of St. Paul's? It was not beyond the limits of architectural skill where the road follows a little way round to the south side of St. Paul's, as shown in the architects' scheme, to construct a subway and preserve the stability of the foundations of St. Paul's. Much play had been made by the promoters on the alleged extra cost by a million of an alternative scheme. But there was no evidence that there would be this extra cost. Let the House realise the great opulence of the estate managed by the Corporation for the maintenance and building of bridges. There was a rental of £152,000 a year, and the income would largely increase as leases fell in. Upon a revenue of that sort there should be no hesitation about adopting a good scheme because of an additional expense of £100,000 or £200,000. If the objections were valid they would still hold good upon reconsideration, and a few months' delay for deliberation would not hurt the scheme. This was the greatest opportunity this generation was likely to have to provide an architectural vista that would be unequalled in Europe, and he earnestly urged the House not to decide hastily in favour of a scheme so much condemned.

Lord H. Cavendish-Bentinck seconded the motion. A bridge in the heart and centre of the capital should be built in a way worthy of an Imperial people. Nothing was more remarkable than the patience with which the people of London had submitted to architectural outrages. Much water had flowed under Westminster Bridge since Wordsworth declared he saw from it the finest view in the world, and since then we had built four or five of the ugliest railway bridges in the world. Every great opportunity had been missed and every great highway had been considered, not with any artistic or æsthetic view, but in what Arthur Young called the baneful spirit of the counter. If any part of the population had a claim to the ennobling influences of architecture it was those on the southern side

of the river in a wilderness of mean streets whose only landmark was the Elephant and Castle! The spirit underlying this proposal was the same spirit that had provided the wilderness of mean streets, stuccoed villas, slums, and back-to-back houses, and the House of Commons which lately passed the Town Planning Bill would indeed stultify itself by sanctioning a proposal like this. He believed they ought to give this Committee a further opportunity of hearing architectural opinion on this subject, and it was from the point of view of the danger they were running of having a great eyesore inflicted on the people of London that he seconded the rejection of the Bill.

Sir Alfred Gelder [*F.*], Member for Brigg, Lincolnshire, said if this scheme were allowed to pass it would be one of the most fatal blunders in London architecture that had been committed for centuries. Indeed, it would be more than a blunder: it would be a positive crime, and cruel to posterity. The Cathedral was a national monument of which any nation might be proud, and surely the House did not wish to see repeated the blunder of the bridge across Ludgate Hill. The desire was to open out St. Paul's so that its beauties might be better seen and understood. In his view the Engineer of the Corporation had absolutely ignored the opportunity to obtain for London an advantage which would endure as long as the City endured. The Corporation had also ignored the advice of all those who were best able to give advice on the subject—the architects, artists, sculptors.

Mr. Mooney: If the architects had followed up a suggestion I made they could have come before us with an alternative scheme and given us their opinion.

Sir Alfred Gelder said it was no more the duty of the architects to present an alternative scheme than that of any other class of people. But they did their best to influence the Corporation by deputation and by presenting a petition against the Bill. The hon. baronet touched the spot when he said that to bring the new street in a direct line with the centre of St. Paul's would be an enormously costly process. He was assured on authority that the additional cost would only be about £150,000 or £200,000, but even if it cost a million—which he traversed entirely—he submitted that in a matter of this sort, where Parliament was dealing with a work that would last for centuries, they ought to take a broad and not a narrow view. He traversed entirely the statement that there was danger to the foundations of St. Paul's if any other scheme than this were adopted, and, with respect to the zone of danger which the Commissioner of City Police spoke about, he believed that the traffic could be quite as easily dealt with under any other scheme as under the scheme which had been passed by the Committee. It seemed to him a very great pity that in a matter of this kind the purely utilitarian view of the engineer alone had prevailed and that no regard had been paid to the æsthetic character of the project and to the amenities of the City. When an opportunity like this arose they did not want to repeat mistakes such as had been made before because full and adequate consideration had not been given to the subject. If the Bill went back, evidence could be produced which would show that a scheme could be submitted which would give all the effect of a vista of St. Paul's, and also all the means of locomotion which were so much needed in the congested centre of London.

Mr. Essex pointed out that even if the House instructed the Committee to reconsider this point, they could give powers for a large amount of the work to be at once proceeded with—namely, the reconstruction of Southwark Bridge. That would take about four years, and during that time public opinion would be focussed upon this scheme and Parliament would be less likely then to make a mistake. The City Corporation had considered the project from the utilitarian standpoint, and hon. members, therefore, might not lightly charge the Corporation with a lack of carelessness. But their charge was that the Corporation had not had the opportunity of considering all the artistic considerations involved in the scheme. He challenged the scheme also on the ground that it was inadequate. The Corporation had cut their coat according to their cloth, but he thought they might have dealt more generously with Londoners in view of the rapid growth of their funds. Wherever the bridge was put it should be the widest in London, but from the start it was not going to be so. Another mistake which had been made was in the incompleteness of the connection between north and south, while owing to the tramway tracks and the three lines of traffic the effective width of the bridge, as ordinarily considered, would not be realised. He was the only member of the Committee who voted against the scheme. His colleagues gave the fullest consideration to the case, as he also did, but the inquiry was too limited. The City Council ought to have brought before them a more daring scheme; and if the Bill was sent back e hoped they would be encouraged to take the opportunity boldly by the hand and do the thing well.

Mr. Lyttelton (referring to an objection raised by Mr. Emmott, Chairman of Ways and Means, that the motion to recommit the Bill could not be carried without casting a slur on the Committee) said he did not agree that the recommittal of the Bill involved any slur upon the Committee. The Chairman of Ways and Means seemed to him to have fallen into the error of treating a matter which was of immense importance to London as if it were a mere private matter of litigation between two parties. His proposition was that because the Institute of British Architects had not responded to the invitation of the Committee, London and the public of London were for all time to be treated on the basis that such evidence was not forthcoming. Nothing could be more fundamentally wrong. The interest of the public in this matter was a great one. What had they to do with the default of the architects? He did not blame the Corporation. He believed they had behaved in a frank and generous manner to the architects. They did everything they could to get their evidence, which for some reason was not given. The Committee also were absolutely free from blame, and, indeed, deserved the cordial appreciation of the House. It was perhaps to be regretted that a representation was not made that the evidence of architects was necessary to enable a proper decision to be arrived at. The House would then have been able to order the attendance of any person whom it was considered necessary to summon. The result would have been a decision of the Committee based on full instead of imperfect information.

Lord Balcarres said the question was far too important, and the occasion too unique, for the matter to be settled by a reference to precedent and the propriety of treatment for a Committee. Putting aside smaller and what might be called personal questions which had arisen, the central governing consideration of the controversy was whether this great scheme for a new bridge should go direct towards the greatest architectural feature in the metropolis, or whether the line should be deviated for reasons that were adequate. He was delighted to hear that the bridge was to be designed by a competent architect, but that was not the main point at issue; it was not the structure or design of the bridge, but the direction of the road leading to and from the bridge that was at issue. Surely a House of Commons which passed a town-planning scheme only a year ago and confessed by the passing of this Bill as it stood that that scheme was a dead letter would stultify itself. It was said that the bridge proposed in the alternative scheme would be a skew bridge. All architectural and town-planning precedents justified such a scheme when it was adopted to lead up to a monument of architectural pre-eminence. A skew bridge in this case would be more than justified by the fact that it would lead up to the great dome of St. Paul's and open up a vista which would very soon become a source of genuine appreciation to the scores of thousands of people

who crossed the bridge. It was clearly an exaggeration to say that no tramway could follow anything but a direct route. Any one familiar with the London tramway system would agree that the authorities had never found any difficulty in laying a line along tortuous thoroughfares. He denied that there was any necessary conflict between the artistic and the utilitarian. If they made a mistake now it would be irretrievable, and twenty years hence it would be said that the House of Commons refused to pass this magnificent alternative scheme because it would be hurtful to the feelings of the members of a Committee.

The Instruction to the Committee on the recommitted Bill which formed the second part of the amendment stood over until Thursday when Mr. Morrell moved as follows :—

"That it be an instruction to the Committee not to agree to any scheme for the construction of the proposed new bridge, including the approaches thereto, until they are satisfied that the scheme, both in respect to architectural design and convenience of traffic, is the one best adapted to the public needs and to the character of the site." He only wished to say that he believed the instruction would be accepted by his hon. friend the member for Rochester on behalf of the City Corporation, who, he understood, were prepared to consult some leading architect, as was suggested last night, with a view, if possible, to getting the scheme more into harmony with public opinion and the opinion of the best architects.

Sir F. Banbury, who had spoken against the amendment the previous day, seconded the instruction.

On the motion of Mr. Booth (Pontefract), the instruction was amended so as to make the concluding words read—"One best adapted to the public need and best suited to the character of the site."

Mr. Morton (Sutherland) having stated on behalf of the Corporation that they undertook to call in an independent architect of repute to advise,

The instruction was agreed to.

It may be mentioned that on the afternoon of the 14th, prior to the debate on Mr. Morrell's amendment, Professor Beresford Pite, who has been in constant touch with the Committee who have led the opposition in Parliament against the Bill, attended the House of Commons by invitation with plans showing the various schemes for the information of members. Professor Pite was accompanied by Mr. Morrell and other members of the Committee, and an informal meeting was held on the Terrace.

Professor Pite, interviewed by a representative of the *Westminster Gazette* (reported in a late edition of the 15th), referring to the City Corporation's objection that the more artistic and worthy scheme would give rise to insuperable traffic difficulties, said :

"That criticism of our proposals, curiously enough, is the least convincing. The Corporation argue that the alteration of the approach of the bridge to the south side of the Cathedral would lead to what is commonly called a 'dead end.' But this is a complete misuse of terms. Does Hamilton Place, where it discharges into Piccadilly, discharge into a dead end ? Does Park Lane, at Oxford Street, discharge into a dead end ? Does the Thames Embankment discharge into a dead end at the Clock Tower of the House of Commons or at Blackfriars Bridge ? If so, our scheme for the new bridge would certainly fall beneath this criticism. But these ends, we know well enough, are anything but dead ; and the end of the alternative bridge, so far from being dead, would receive the traffic and distribute it east and west and north much better in the extended space of St. Paul's Churchyard than by impinging the north and south traffic upon the east and west traffic at the point of intersection with Cannon Street. A practical illustration of the kind of situation that would arise under the Corporation scheme is to be found at the end of Waterloo Bridge, where the traffic east and west of the Strand is impinged upon by the traffic of the bridge north and south ; and this familiar congestion would, of course, be greater in the case of the heavy traffic over St. Paul's Bridge. . . .

"It is imperative," Professor Pite concluded, "that the plan of the bridge and its approaches should be reconsidered in conference with competent architectural advisers. In other words, a new and proper plan must be submitted to Parliament. A good deal was said last night in the House of Commons about the duty of the Royal Institute of British Architects ; but it cannot be pretended that it is the duty of that body to prepare plans in opposition to those officially produced by the Corporation. They are not in a position to obtain valuations of the properties, and to negotiate with their owners, or undertake the necessary practical work. The Institute, in its public capacity, is interested in the art of architecture ; and in this matter of St. Paul's Bridge it is really the friend of the City. If the Corporation require an honorary committee of architects to advise them, the President of the R.I.B.A. would form one immediately."

To complete the record given in these pages of the letters on this subject which have appeared in *The Times* from the President of the Institute and Royal Academicians, it has to be mentioned that a letter appeared on the 10th June from Mr. Ernest George, A.R.A. [*F.*], Sir George Frampton, R.A. [*H.A.*], Mr. Reginald Blomfield, A.R.A. [*F.*], Mr. John S. Sargent, R.A. [*H.A.*], Sir L. Alma Tadema, O.M., R.A. [*H.F.*], Sir Thomas Brock, R.A. [*H.A.*], and Mr. John Belcher, R.A. [*F.*], recalling their previous letter, in which they had pointed out that the carrying out of the Corporation's scheme must inevitably leave an indelible mark on the scenery of the river, and pleading that some assurance might yet be given that this great opportunity for increasing the architectural beauty of London would not be missed. The Corporation's scheme, they again urged, had no claim whatever to be considered as carrying with it any artistic or architectural authority. They trusted that the House of Commons, by passing the motion to recommit the Bill, would show themselves mindful of future generations for whom they are trustees, and do all that was possible to secure the formation of a scheme and the building of a bridge that would be worthy of the historic site.

Another Alternative Scheme.

Some particulars appeared in *The Times* last Tuesday of an alternative scheme prepared by Mr. W. Henry White [*F.*]. Generally the plans follow the lines of the City's scheme, which provides for a northern approach to the proposed St. Paul's Bridge at Old Change, adjoining the east end of the Cathedral. Mr. White proposes, however, that the

approach should be " Y "-shaped, so that while one extremity would abut upon the east end of the building the other would be carried to a point near the west end. Between the two arms of this divergent road there would be an opportunity, it is urged, for a piece of town planning on a scale worthy of London. At the same time the vista of the dome and south front of St. Paul's would be opened up, as suggested in the scheme advocated by Professor Beresford Pite and described in *The Times* of 22nd April. It is further claimed that Mr. White's scheme would have the effect of dividing the traffic passing over the bridge into two main streams to and from the east and the west, and thus avoid the congestion of traffic which, it is argued, would take place at the south-east corner of St. Paul's Churchyard if the Corporation's scheme were adopted.

The Ninth International Congress of Architects, Rome, Oct. 2-10, 1911.

Among the distinguished visitors present at the Meeting last Monday was Signor Cannizzaro, of Rome [*Hon. Corr. M.*], and at the conclusion of the discussion on Mr. Richmond's Paper the Chairman addressed to him a few words of welcome and, introducing him to the Meeting, stated that Signor Cannizzaro, who was President of the Executive Committee of the International Congress of Architects to be held at Rome next October, had kindly consented to say a few words about the Congress, and the arrangements that were being made for the entertainment of those who were to take part in it.

Signor Cannizzaro said he felt much honoured in having the opportunity to convey to English architects the very cordial salutations of their Italian brethren. There were being held in Rome this year a long series of International Congresses for various objects. These Congresses were a necessary complement of the Exhibition which was being held to celebrate the Jubilee of the Unification of Italy. They had been greatly helped by other nations, especially by England, in uniting the various States of the country into the present Kingdom under the Savoy dynasty; and they thought it their duty, in celebrating the Jubilee of their Unification, to prove to the other countries that in making Italy a united nation they were not only consolidating a country strong by force of arms, but strong by the intelligence of a people who were striving to advance in science, in art, and in everything which conduced to the well-being and improvement of humanity. It was for this reason that this long series of Congresses was being held, and Italian artists were hoping to have as their guests in Rome as large a number as possible of English architects. They would be glad to show to their colleagues of other nations the work done in this branch of art in Italy, to enable Italian architects to keep the place they now hold, and to which they had been helped by other nations. The Congress would be held in October, from the 2nd to the 10th, and would be under the patronage of the King, with, as Honorary Presidents, the Minister of Public Instruction, the Minister for Art, and the Minister for Foreign Affairs. The Congress would last for a week, and at its close the Organizing Committee hoped to bring all those attending it to Venice, to show them the tower of San Marco, and other monuments of interest.

Some particulars of the Congress appeared in the JOURNAL for the 18th February, and detailed programmes of the proceedings, excursions, &c., are promised by the Italian authorities at an early date. These will be issued to members of the Institute as soon as received. Meanwhile it should be noted that members of the Congress consist of two classes—viz. "Full Members," comprising, among others, all architects, and persons who follow the professions connected with architecture; "Associate Members," comprising the wives and children * of Full Members, and architectural students. The subscription for Full Members is 25 lire (£1) and for Associate Members 15 lire (12*s.*). Members of both classes have the same rights to reduced fares on the Italian railroads, to special reductions for apartments, to special cards of admission to the galleries, museums, and other institutions, and to attend the meetings of the Congress and visits.

The subjects for discussion include :—

(*A*) Reinforced Concrete : its Employment in Different Countries and the Opportunities for its Application to Artistic Construction from the Technical and Decorative Point of View.

(*B*) The Question of an International Gazette of Architectural Bibliography.

(*C*) The Exercise of the Profession by an Architect in Countries other than his own.

(*D*) Observations on Modern Architecture.

(*E*) The Execution of the Architectural Work of Governments and other Public Bodies.

(*F*) The Rights and Duties of an Architect in regard to his Client.

(*G*) The Utility of an International Comparative Dictionary of Architectural Terms.

Extra Subject.—Foreign Academies at Rome : Their History, the Resulting Studies and Designs of the Students, and the Influence exercised by these Schools in the Countries they represent.

All duly enrolled members have the right to send papers and resolutions for discussion on the various subjects of the programme. These must be sent to the Organising Committee at least four months before the opening of the Congress, and be drawn up in French. If possible an abstract of the papers and other communications translated into several languages will be issued prior to the opening of the Congress.

Applications for membership from persons resi-

* A Full Member has the privilege of nominating not more than two members of his family as Associate Members.

dent in the United Kingdom should be made to Mr. John W. Simpson, F.R.I.B.A., Secretary of the British Section of the Comité Permanent International des Architectes, 9 Conduit Street, Regent Street, W.

Dr. Dörpfeld's Researches at Corfu.

The Times recently gave an interesting account of the excavations at Corfu now being carried out at the expense of the German Emperor by Dr. Wm. Dörpfeld, the eminent archæologist who is to receive the Royal Gold Medal at the General Meeting of the Institute on the 26th inst.

The site is that of the ancient city of Corcyra, some two miles to the south of the modern town. The district is still locally known as Palaeopolis; the acropolis of the ancient city crowned the ridge of the peninsula, on the eastern slope of which stands King George's villa, Mon Repos. The ancient town was sacked by the Goths in the sixth century A.D., and was never rebuilt.

Researches have been carried out at various times on the site of Palaeopolis; among the more interesting results was the discovery of the ancient cemetery in 1843; here the well-known tomb of Menecrates was brought to light with a metrical inscription in the primitive Corcyraen alphabet, and a fine lioness of archaic workmanship, now preserved in the Royal Palace. It was reserved for a peasant, however, to initiate the new series of discoveries while digging in a field.

The sculptures so far uncovered apparently belong to the western pediment of a very large temple, and it is now possible to determine their arrangement with tolerable certainty. The central group represents Perseus slaying the Gorgon Medusa, while the winged horse Pegasus springs from her blood. The gigantic form of Medusa, with one knee bent to the ground, is in strange contrast with the smaller figures of Perseus to her left and Pegasus to her right; her head is encircled with ringlets of snakes; two larger serpents descend with sinuous motion on either side behind her arms, and long curls of hair, precisely similar to those affected by ladies of the earlier Victorian epoch, fall on her breast. Her chiton, which has an ornamented border, is clasped round the waist by two serpents, admirably delineated, whose heads with forked tongues face each other in front. Her feet are clothed with *cothurni*. On the right breast and arm of the Gorgon are traces of red colouring; the background on either side of her figure is sculptured in featherwork, which seems intended to indicate that she had wings.

On either side of the central group are two colossal "couchant" lions, or perhaps leopards, with their heads turned towards the spectator. Both heads and the body of the lion to the right of the Gorgon have been found. These imposing animals act as supporters to the central subject, which they separate from the smaller groups on either side; they are apparently purely ornamental, and their presence seems in conflict with the unity of design which generally characterises a series of pedimental sculptures.

Of the groups thus detached from the central figures and probably referring to distinct legends, that on the spectator's left displays a goddess seated by an altar and warding off with her hand a spear hurled by an assailant, whose figure has not yet been found. The corresponding group on the right represents Zeus slaying a Titan with a thunderbolt. A tree by the side of this group corresponds with the altar by the side of the goddess. On the extreme left, in the angle of the tympanum, are the head and shoulders of the recumbent figure of a bearded warrior. The slab containing the nether limbs is missing.

The temple, in Dr. Dörpfeld's opinion, was probably that of Apollo, and concluding that the sculptures belonged to the western pediment of the temple, Dr. Dörpfeld has carried out excavations to the east, but so far no traces of the foundations have been revealed. His theory, however, has been confirmed by the discovery of a triglyph, of several fragments of fluted columns, of some portions of the cornice, of a paved area, which apparently extended in front of the entrance, and of a row of stone blocks which seem to have supported the platform between the peristyle and the wall of the eastern front. From such indications as are now available it seems probable that the temple was a Doric hexastyle or perhaps octastyle; it measured about 48 metres in length by 20 in breadth, and its height was perhaps about 14 metres. It was thus about the same size as the Heraeon at Olympia and somewhat larger than the temple at Selinus. It probably dates from the beginning of the sixth or the end of the seventh century B.C. The sculptures, which, as well as the cornice, were evidently coloured, bear a general resemblance to those of the early temples on the acropolis of Athens.

On Thursday, the 22nd June, M. Honoré Daumet celebrates the jubilee of the foundation of his atelier in Paris. The Institute will be glad to take this opportunity of congratulating its veteran Corresponding Member and Royal Gold Medallist on this auspicious occasion, and on the brilliant success of the pupils who have profited by his instruction, among whom have been no fewer than nine Grand Prix Students.

The Annual Exhibition of the British School of Archæology in Egypt will open on the 26th inst. Roman portraits, sculptures from the Labyrinth and Memphis, prehistoric vases, flints, &c., found by Prof. Flinders Petrie and students, will be shown at University College, Gower Street, from June 26 to July 29 from 10 to 5, and evenings July 5, 15, 25, from 7 to 9. The Hon. Secretary, Mr. H. Flinders Petrie, will be in attendance from 11 to 1.

LEGAL.

Construction and Effect of Trade Guarantee: Architect as Arbitrator or Quasi-Arbitrator.

CARMICHAEL *v.* THE STONWOD FIREPROOF FLOORING CO., LTD.

The appeal of the plaintiff in this case from a decision of Mr. Justice Bucknill in favour of the defendants was heard on 30th May before Lord Justice Vaughan Williams, Lord Justice Fletcher Moulton, and Lord Justice Farwell.

The appeal was allowed, with costs, Lord Justice Vaughan Williams dissenting.

The point at issue was whether the architect (Mr. Reginald Blomfield, A.R.A.) was in fact an official arbitrator. The defendants urged that he was, and was therefore bound to proceed with all the formalities of an arbitration case. The plaintiff contended that he was not, and that the decision that he arrived at was valid, and his procedure correct. The plaintiff's view has now been upheld on appeal. Lord Justice Fletcher Moulton, in giving judgment, said:

This is an appeal from the judgment of Mr. Justice Bucknill in favour of the defendants in an action brought under the following circumstances. The plaintiff was the building contractor employed by a Mr. Buckley to carry out certain work upon his house. That work included the laying of certain floors, and the defendant company, which is a company whose special business it is to lay such floors in a material covered by patents which they possess, was desirous that the execution of this part of the work should be entrusted to them. The plaintiff was unwilling to take this course unless he was protected in case the building owner should not approve the floors when laid, and accordingly before the order was given to defendants they gave a guarantee in the following terms:—"*Re* Stonwod Floors to be laid at Mountsmere Manor. We hereby guarantee these floors subject to fair wear and tear for a period of three years; also that if the floors are unsatisfactory to your client, Mr. Buckley, we will refund to you the money you have paid us for laying them, subject to the faults, if any, being due to no cause beyond our control. The decision of the architect, Mr. Reginald Blomfield, to be binding on both sides. For the Stonwod Flooring Co., Ltd., R. Chinery Lee (Secretary)."

It is on the construction and effect of this guarantee that the question in the present case turns.

The floors when laid did not give satisfaction. The defects which first made their appearance were remedied, but in April 1910 Mr. Buckley definitely decided that the flooring was unsatisfactory and must be replaced. The question then rose as to whether the "faults, if any," were due to causes beyond the control of the defendants, a matter which under the guarantee was to be decided by the architect under whose supervision the whole of the work has been carried out, Mr. Reginald Blomfield. He made an appointment to meet the representatives of the plaintiff and defendants at the house, and examined the floors and discussed the whole question with them. He seems also to have made inquiries of his own with regard to the accuracy of certain allegations of the defendants' representative to the effect that the floors had been washed too soon after they had been laid. There is no suggestion that Mr. Blomfield showed any partiality towards either of the parties, or refused to hear them in any way. Having taken such steps as he thought necessary to enable him to come to a decision, he decided that the defects were not due to causes not under the control of the defendants, and the plaintiff having obtained this decision in his favour has brought this action against the defendants to recover the money paid to the defendants for laying the floors. The defence which the learned Judge has held to be an answer to this claim is that the guarantee was a submission to arbitration, and that Mr. Blomfield was bound to hold an inquiry in accordance with the provisions of the Arbitration Act, 1889, and that accordingly (amongst other things) his award must be given in writing, and that, as this was not done, his decision is of no validity, and the plaintiff fails in his action.

There is, in my opinion, a fundamental error in law which underlies the whole of the judgment of the learned Judge. He has held that the guarantee is a submission to arbitration within the provisions of the Arbitration Act, 1889. But the definition clause of that Act is clear, and it is to the effect that a "submission" means a written agreement to submit present or future differences to arbitration whether the arbitrator be named therein or not. Now it is impossible to call this guarantee a written agreement. It is only signed by one of the parties, and therefore whatever be its other legal consequences it cannot be a submission under the Arbitration Act, 1889, and that Act does not apply in any way to it. Putting aside, therefore, the Arbitration Act, 1889, it remains to consider what is the true construction and effect of the guarantee in this case. In my opinion the document is not difficult to construe. It recognises that Mr. Buckley, the building owner, is entitled to reject the floors if they are unsatisfactory to him. And it is common ground that he has so rejected them. The document then provided that the defendants will refund to the plaintiff the money paid for the laying of the floors in a certain contingency—that is to say, in case the "faults, if any," are due to no causes beyond the control of the defendants, and the architect is appointed to decide authoritatively between the parties whether this contingency has or has not arisen. It is contended on behalf of the defendants that this means that he is to be arbitrator between the parties and to decide only after holding a judicial inquiry with all the formalities of an arbitration under the Act. I can see nothing in the language used which justifies such an interpretation. On the contrary it is in my opinion clear that such was not the intention of the parties. The amount at stake was small, something less than £70. The person chosen to decide the point was the architect under whose supervision the building operations were actually to be carried on, and who was necessarily and was known to the parties to be a person possessed of experience and technical knowledge in such matters.

There is nothing in the language used which points to any formal inquiry. I come to the conclusion therefore, as a matter of construction, that it was intended that the architect should decide the question after such examination and investigation as he considered sufficient to enable him to do his duty. There is nothing in English law which prevents parties from agreeing that in any particular question they will abide by the opinion of a third party, such opinion being formed by him as he would do it in the ordinary affairs of life. In such a case as the present, I should feel slow to decide that the parties contemplated formal arbitra-

tion with all the incidents of litigation as a necessary preliminary to a person in the position of the architect deciding as between them such a matter as this. No doubt there are errors of conduct which might nullify a decision if improperly arrived at even in a proceeding so informal—as, for instance, if the decision were given by drawing lots, or after hearing one side and refusing to hear the other. In such case the Courts would hold that no proper decision had been arrived at at all. But the fact that the decision is one which has a judicial element in it does not connote to my mind that the intention of the parties must necessarily be that the person giving it must follow any special procedure other than that which, in practical life, a responsible man would think suitable to guide him to a fair decision. Viewed from the standpoint of his duties in such a case, the architect's conduct appears to me to have been free from reproach, and the decision he has given is in my opinion binding on both parties.

I am, therefore, of opinion that this appeal should be allowed, and judgment entered for the plaintiff in the action for the sum claimed, with costs of the action and of this appeal.

Lord Justice Farwell, who concurred, referring to the construction of the guarantee, said :

Does the guarantee contain a reference to arbitration within the Arbitration Act, or is it a mere reference to the architect as a quasi-arbitrator (to use the phrase of Lord Collins in Chambers *v.* Goldthorp, 1901, 1 Q.B. 624, 638–9). There is no question here of the architect being the agent of either party, only so as to be liable for negligence by him he is to decide between the parties either as arbitrator or as quasi-arbitrator. The distinction is material. The arbitrator has to hear and determine judicially, with power to call witnesses and administer oaths, and must make a formal award in writing ; the latter is not bound so to act ; his duty is to act impartially, honestly, and *bona-fide*, the matter being referred to him on account of his position and the knowledge that he is assumed by the parties to possess by means of which he will be able to say what is fair between them without the expense and delay of a formal arbitration. See *Re* Dawdy, 15 Q.B.D. 426. In my opinion the reference in the present case to " the Architect, Mr. R. Blomfield," is to him as quasi-arbitrator for the following reasons : the amount at stake is between £60 and £70 ; Mr. Blomfield is a well-known architect who has supervised the erection of the mansion-house in part of which these floors were laid ; it may fairly be assumed that the parties contemplated that such questions and suggestions as did actually arise would arise. Thus, the suggestion that the unsatisfactory state of the floors was due to defects in, or sinking of the concrete on which they were laid, could only have been conclusively disposed of in a formal arbitration, by taking up the floors and examining the concrete below—an expensive and troublesome work—but the architect who had superintended the laying of the concrete was able to dispose of the point from his own knowledge and experience acquired during the progress of the works.

Again, the other suggestion was that the floors had been washed too soon. The architect satisfied himself by inquiry from Mr. Buckley, and, through him, of the servants, that he (Mr. Buckley) had not gone into the house for two or three months after the floors were laid, and that the floors had not been washed previously : the defendant was present and did not suggest any cross-examination of Mr. Buckley or the servants.

If there had been a formal arbitration, there would have been evidence on oath, with cross-examination. I do not think that the parties contemplated anything of the sort ; their real object was to have the matter speedily and cheaply settled, without much expense or delay, trusting to the architect's familiarity with the matter and to his fairness and honesty. Further, the guarantee does not purport to be a submission to arbitration by both parties, nor is it signed by both parties as is, in my opinion, required by Section 27 of the Act : for the writing maintained in that section necessarily extends to all the material parts of the submission and the signatures are most material. It is true that a party to a submission signed only by the other side is estopped from setting up such want of signature if he himself sues on the award made under it—(Baker *v.* Yorkshire Fire and Life Insurance Company, 1892, 1 Q.B. 144)—but when, as here, it is an open question whether the architect is arbitrator or quasi-arbitrator, there can be no such estoppel, and the fact that there is no document signed by the plaintiff which can be read as an adoption in writing of the submission goes to show that neither party so regarded it.

On the construction therefore of this guarantee, I am of opinion that the architect was not an arbitrator but a quasi-arbitrator, and that his decision, although after an informal inquiry, and without such evidence as would have been required if there had been an arbitration under the Act, is binding because it is admittedly made honestly and *bona-fide*.

MINUTES. XV.

At the Fifteenth General Meeting (Business and Ordinary) of the Session 1910–11, held Monday, 12th June 1911, at 8 p.m.—Present : Mr. E. Guy Dawber, *Vice-President*, in the Chair ; entered in the attendance-book the names of 19 Fellows (including 8 members of the Council), 23 Associates (including 2 members of the Council), 3 Hon. Associates, 1 Hon. Corresponding Member, and several visitors—the Minutes of the Meeting held 22nd May 1911 were taken as read and signed as correct.

The following Licentiates attending for the first time since their election were formally admitted by the Chairman—viz. : Arthur Hadley Fagg, John Morley, Russell Scott Scholefield, William John Wilsdon.

The Hon. Secretary having announced the receipt of a number of books presented to the Library, a cordial vote of thanks was passed to the donors.

The Secretary read the following Reports :—

To the Chairman of the General Business Meeting, Monday, 12th June 1911,—

The Scrutineers appointed to count the votes for the Annual Election of the Council and Standing Committees beg to report that 767 envelopes were received, and the results are as follows :—

President.—Leonard Stokes (unopposed).

Past Presidents.—Thomas Edward Collcutt ; Ernest George (unopposed).

Vice-Presidents.—*Elected* : Reginald Blomfield, 575 votes ; Ernest Newton, 575 ; E. Guy Dawber, 495 ; John W. Simpson, 394.

Not elected : Beresford Pite, 366 votes ; A. W. S. Cross, 309.

10 invalid papers.

(*Signed*) J. Leonard Williams, Edward B l'Anson, *Chairman.*

Honorary Secretary.—Henry T. Hare (unopposed).

Representatives of Allied Societies.—H. C. Charlewood, Newcastle ; S. D. Kitson, Leeds ; Edgar Wood, Manchester ; James Jerman, Devon ; J. B. Mitchell-

Withers, Sheffield; A. E. Murray, Ireland; W. F. Wilkie, Dundee; C. L. Wilson, Cardiff; J. F. Wood, Bristol (unopposed).

Representative of the Architectural Association.—Gerald Horsley (unopposed).

Honorary Auditors.—John Hudson; William Henry Burt (unopposed).

Members of Council.—*Fellows.—Elected*: J. A. Gotch, 520 votes; H. V. Lanchester, 473; E. L. Lutyens, 464; E. T. Hall, 462; J. S. Gibson, 461; H. Ricardo, 449; W. Flockhart, 413; W. Cave, 396; W. Brierley, 390; Sir A. B. Thomas, 372; G. Hubbard, 336; A. Keen, 332; Max Clarke, 328; G. H. F. Prynne, 323; W. C. Green, 316; P. S. Worthington, 313; W. Woodward, 307; E. W. Wimperis, 306.

Not elected: H. P. Burke Downing, 302 votes; W. Dunn, 302; H. H. Statham, 300; W. A. Forsyth, 285; M. B. Adams, 280; S. D. Adshead, 271; M. Mackenzie, 271; E. P. Warren, 264; C. H. B. Quennell, 244; A. S. Snell, 239; A. N. Paterson, 228; W. H. White, 209; S. P. Pick, 208; A. Thornely, 202; B. F. Fletcher, 170; S. Perks, 168; P. Ogden, 152; J. B. Wilson, 128; T. Eccles, 108; G. E. Nield, 86; P. B. Tubbs, 71; E. J. Sadgrove, 50.

23 spoilt papers.

(*Signed*) Arthur W. Cooksey, Allan Graham,
H. S. East, George Edw. Withers,
F. R. Gould Wills, Henry James Wise,
A. Edward Hughes, Edward B. I'Anson, *Chairman.*

Associate Members of Council.—*Elected*: S. K. Greenslade, 537 votes; A. N. Wilson, 473; H. I. Triggs, 438; W. J. Tapper, 404; S. Warwick, 345; H. W. Wills, 334.

Not elected: C. E. Hutchinson, 290 votes; G. A. T. Middleton, 266; K. Gammell, 215; A. C. Dickie, 208; E. V. Harris, 189; H. A. Saul, 150.

10 spoilt papers.

(*Signed*) Horace M. Wakley, Percy P. Cotton,
Edward B. I'Anson, *Chairman.*

Art Standing Committee.—*Fellows.—Elected*: Newton, 623 votes; Lutyens, 530; Rickards, 482; Horsley, 474; Cave, 461; Brierley, 451; Flockhart, 449; Brewer, 418; Forsyth, 407; Lucas, 401.

Not elected: Adshead, 321 votes; Wood, 300; Statham, 286; Clapham, 243; Kitson, 237; Bateman, 235; Reay, 147.

Associates.—Elected: Greenslade, 614 votes; Needham Wilson, 582; Triggs, 579; Tapper, 564; Warwick, 499; Joass, 492.

Not elected: Dawson, 325 votes.

1 spoilt paper; 2 blank papers.

(*Signed*) R Heath Mew, C. Barry Cleveland,
Henry J. Chetwood, Edward B I'Anson, *Chairman.*

Literature Standing Committee.—*Fellows.—Elected*: Gotch, 613 votes; Ricardo, 553; Green, 534; Waterhouse, 531; Baggallay, 527; Warren, 475; Prynne, 467; Thomas, 438; Niven, 423; Spooner, 378.

Not elected: Fyfe, 367 votes; Jemmett, 311; Favarger, 278; Taylor, 231; Sirr, 219.

3 forms rejected.

(*Signed*) Albert Howell, Hylton B. Elkington,
A. Wyatt Papworth, Edward B. I'Anson, *Chairman.*

Associates.—Elected: Millard, 565 votes; Stratton, 528; Smith, 519; Passmore, 461; Wills, 422; Sayer, 395.

Not elected: Lishman, 373 votes; Hiorns, 281.

(*Signed*) Albert Howell, Hylton B. Elkington,
A. Wyatt Papworth, Edward B. I'Anson, *Chairman.*

Practice Standing Committee.—*Fellows.—Elected*: H. D. Searles-Wood, 528 votes; H. C. Clarke, 481; W. Woodward, 475; C. S. Peach, 451; A. W. S. Cross, 442; M. Garbutt, 434; H. Tanner, Junr., 421; S. Perks, 419; R. S. Ayling, 365; A. W. Moore, 361.

Not elected: J. Hudson, 355 votes; W. G. Wilson, 350; H. A. Satchell, 331; G. E. Nield, 261; E. Seward, 247; F. W. Marks, 224.

(*Signed*) Fredk. Ernest Williams, E. Brantwood Maufe,
J. Douglas Scott, Edward B. I'Anson, *Chairman.*

Associates.—Elected: C. E. Hutchinson, 508 votes; J. N. Horsfield, 503; H. H. Langston, 443; H. Shepherd, 432; K. Gammell, 415; H. A. Woodington, 396.

Not elected: J. C. Nicol, 376 votes; J. W. Stonhold, 326.

(*Signed*) Fredk. Ernest Williams, E. Brantwood Maufe,
J. Douglas Scott, Edward B. I'Anson, *Chairman.*

Science Standing Committee.—*Fellows.—Elected*: Max Clarke, 605 votes; John Murray, 571; George Hubbard, 569; H. Percy Adams, 566; R. Elsey Smith, 561; F. R. Farrow, 557; George Hornblower, 539; E. Flint, 536; H. Gilbert, 501; W. H. White, 470.

Not elected: E. R. Barrow, 469 votes.

Associates.—Elected: E. W. M. Wonnacott, 369 votes; G. L. Elkington, 311; E. A. Young, 308; Alan Munby, 302; C. J. Marshall, 282; Digby L. Solomon, 274.

Not elected: R. J. Angel, 262 votes; H. W. Burrows, 257; J. H. Markham, 256; J. P. Clark, 210; E. J. Bennett, 208; H. A. Saul, 184; W. R. Davidge, 178; J. E. Franck, 105.

(*Signed*) Alex. G. Bond, J. Leonard Williams,
B. K. Caulfield, Edward B. I'Anson, *Chairman.*

On the motion of the Chairman a hearty vote of thanks was accorded to the Scrutineers for their labours in connection with the elections.

The following candidates for membership were elected by show of hands under By-law 10 :—

As Fellows. (6).

GRAYSON: Hastwell [*A.* 1897] (Liverpool).
LOCHHEAD: James [*A.* 1894] (Hamilton, N.B.).
LOW: William Ralph [*A.* 1886].
NEUBRONNER: Henry Alfred [*A.* 1899] (Penang, Straits Settlements).
POTTER: Francis John [*A.* 1909].
SUTCLIFFE: George Lister [*A.* 1891].

As Associates (9).

AIRD: James Albert [*Qual.* 1910] (Montreal, Quebec).
ARNOTT: Charles Dudley [*Qual.* 1910] (Shanghai,).
AYRE: David Wickham [*Qual.* 1910].
COLLINS: Alfred Francis [*Qual.* 1910] (Windsor Castle).
COLVILLE: David [*Qual.* 1910] (Vancouver, B.C.).
CORNWELL: Arthur Redfern [*Qual.* 1910].
MONSBOURGH: Alan Gordon [*Qual.* 1909] (Johannesburg, S. A.).
PATON: William Mortimer [*Qual.* 1893] (Dublin).
TREBILCO: Arthur Floyd [*Qual.* 1910] (Melbourne, Australia).

The Secretary further announced the nomination of the 397 candidates for Licentiateship whose names were printed in the Supplement for the 6th May.

A Paper by Mr. Ernest Richmond, *Licentiate*, entitled Building Methods in Egypt, having been read by the author and illustrated by lantern slides, a discussion ensued, and a vote of thanks was passed to Mr. Richmond by acclamation.

Signor M. E. Cannizzaro [*Hon. Corr. M.* Rome], at the invitation of the Chairman, briefly addressed the Meeting on the subject of the International Congress of Architects to be held at Rome from the 2nd to the 10th October next.

The proceedings closed and the Meeting separated at 10.20 p.m.

THE ROYAL GOLD MEDAL, 1911.

Presentation to Wilhelm Dörpfeld, Ph.D., D.C.L., F.S.A., at a General Meeting of the Royal Institute of British Architects held Monday, 26th June 1911.

The PRESIDENT having announced that the principal object of the meeting that evening was to present the Royal Gold Medal for the Promotion of Architecture to Dr. Wilhelm Dörpfeld, of the German Archæological Institute at Athens, went on to express his great regret that Dr. Dörpfeld was suffering from illness and was unable to come to England to receive the Medal in person. The German Ambassador, however, had been good enough to ask Count William Bentinck, Attaché to the Embassy, to attend the meeting and receive the Medal for Dr. Dörpfeld. Before making the formal presentation, he would ask Professor Beresford Pite to deliver an address on the life and work of Dr. Dörpfeld. His works were already well known to members, but it would do them all good to have their memories refreshed concerning the great work which Dr. Dörpfeld had carried out in the interests of architecture and archæology.

ADDRESS BY PROFESSOR BERESFORD PITE.

Wilhelm Dörpfeld, Architect, Doctor of Philosophy and of Laws, was born at Barmen on 26th December 1853; he was educated at the Gymnasium of Barmen and at the celebrated Technical High School at Berlin. At the age of twenty-four he was appointed architect to the German Institute of Archæology at Athens, and thence to the excavations at Olympia undertaken by that Institute under the direction of Ernst Curtius; since then, for well nigh forty years, his life-work has concentrated itself upon Grecian life and architecture. His enthusiastic zeal, strengthened by a growing scholarship, has developed and advanced the scientific excavation of ancient sites; and the elucidation by classification of the constantly accumulating discoveries has made him not only a great discoverer but an inspiring teacher; while his boldness and certainty of vision, in recreating the hitherto almost unrevealed world of pre-Hellenic thought expressed in building facts, constitutes a forcible claim for his recognition as a great imaginative constructor. For this work as a discoverer, as an elucidator, and as a reconstructor of the foundations upon which the glories of Greek architecture were achieved, British architects to-day offer again their recognition and applause to their German confrère, the great successor of Schliemann, upon whom the Royal Gold Medal for architecture was conferred twenty-six years ago.

Dr. Dörpfeld's work may be broadly described as that of manifesting to the world for the first time the true import of the almost magical discoveries of his friend and master, that true

amateur of Greek archæology, Heinrich Schliemann. The dawning certainty that a Mycenæan architecture underlay, as a foundation, the development of that ultimate architecture of Greece, which for a whole century Europe has accepted as the acme of intellectual expression in building, is due more to Dörpfeld than to any other man. The marvels of Knossos so learnedly discerned, and then discovered, by Sir Arthur Evans—whom we pause to congratulate—with their relation to a still older Minoan age, fall naturally into place in the progress of the intensive revelation of the core of Levantine culture, after the establishment by Dörpfeld of the relation of the art of the mainland at Mycenæ to that which went before and which followed after.

Untiring patience in research, insight into purposes and conditions, and the architectural instinct of a scholarly imagination, combine in Dörpfeld's work to fascinate the modern practical architect. We may wonder, and perchance tremble at the prospect, even in the dimmest future, of the unravelling, by such another investigator, of the motives and simulations involved in the process which we call design. In deprecation of the searchlight of the future we to-night offer appreciation to the revealer of the long-past. The living to-day has seen the dead yesterday arise, and cannot but marvel and be instructed.

Dörpfeld's work began, as we have said, at Olympia under Curtius, and was afterwards continued as assistant to Schliemann at Tiryns and Troy. After Schliemann's death in 1890 he was in full charge of the excavations, and there he watched for, discovered, and elucidated the evidences of that pre-literary life of Greece to which Homer looked back and which he has pictured in his illuminating history. In 1887 Dörpfeld was appointed Secretary of the German Archæological Institute at Athens, and later on its Director, and from his home and work in that city he has shed light and stimulating exposition upon the problems of its Acropolis, more modern by a millennium than the original Troy. Of late by the direction of the German Emperor he has been placed in charge of the excavations at Garitza in Corfu.

The architectural drawings bearing the name of Wilhelm Dörpfeld, in the great and fascinating volumes recording the excavations and discoveries at Olympia, are evidence of his possession of that clearness of method and completely scientific draughtsmanship which we associate with his friend and colleague Francis Cranmer Penrose. The simple sections elucidating the strata of buried cities upon the site of Troy are also models of directly explanatory diagrams. The fruitful effects of the excavations and discoveries at Olympia, at Tiryns, and at Troy upon our knowledge of the pre-Homeric world, and consequently upon the whole setting of early Greek history, might be dwelt upon, but their general aspect is not the especial ground of the bestowal of the Royal Gold Medal for Architecture. We must pass from the general view with the reflection that the critic of literary history most to be respected and feared is he who wields not the pen of scholarship but the pick of exploration:

> "When time is old, and hath forgot itself,
> When water drops have worn the stones of Troy,
> And blind oblivion swallowed cities up,
> And mighty States characteriess are grated
> To dusty nothing."

Among the suggestive architectural results that have followed from Dörpfeld's discoveries and insight may be instanced the recognition, in the recovered complete plan of the Mycenæan Palace at Tiryns, of the Megaron or Men's Hall with its portico in antis as the original type of the cella of the Grecian temple, which ever afterwards maintained its sacro-sanctity of plan, also that the propylea of the house went before that of the Acropolis. Dörpfeld saw that the foundation walls of the temples built of rubble were, on account of their breadth, a manifest preparation for a superstructure of weak unburnt brick; these cella walls were protected

of necessity by a verandah or peristyle; that the stone bases of the columns were so spaced that timber architraves must have bridged them; that terra-cotta tiles covered them; that the bases of the soft brick walls were protected vertically against the rain splash for a short space with stone plinths, a purpose and meaning of which the plinths of the modern architect are entirely deprived though their presence is dimly and may be sub-consciously known to be appropriate; and that the timber framings employed to strengthen the angles of such walls where the ceiling beams concentrated weight at the angles as well as at the jambs of the door, are the forerunners of the decorative stone anta pilasters and architraves. It is universally recognised that what Schliemann, with an almost miraculous instinct, lighted upon of ancient Troy, Dörpfeld by deliberate scholarship has elucidated amid the upheavals of the first excavations. He has recognised in all nine strata, and in the mound of Hissarlik in Asia defined in the sixth stratum a city similar in constructional epoch and style to those of Mycenæ and Tiryns in Europe at their acme. No certainty in these important eras of Trojan building was possible until Dörpfeld's genius systematised the relations of the foundations and remains, and he has had his reward in revealing the Mycenæan architecture of the pre-Homeric age. His great book on this site is a monument of clearness, and its strength has not yet been weakened by any serious criticism.

Dörpfeld has been for many years the head of the German Archæological Institute at Athens, the recognised *doyen* of her five foreign schools of archæology, and an unrivalled lecturer and exponent of Athenian topography. To say that he is the greatest living authority upon all that concerns the Acropolis is to include a wide ground of reputation, for Athens has become again in our day a centre of learning; the ancient home of art and letters has attracted to herself from the New as well as from the Old World brilliant and ardent scholars in both their youth and prime. To those near, as well as to us who are farther off, the hidden mysteries of the Acropolis rock have become still more vital by the investigations and suggestive teaching of Dörpfeld. The Erechtheum, as always, is a problem not yet solved, but Dörpfeld's pregnant suggestion that the Porch of the Maidens and the Northern Portico may be the designed centres of incomplete elevations is provokingly just, and architecturally spontaneous; and when he indicates how the Greek architects were attended by such hindrances from political and civic troubles as have of late even with us provoked Parliamentary interference, he touches a note which proves him to be not only an archæologist but a seer. Dörpfeld's courageous opinion, in spite of the obstructive presence of those six lovely maidens, that the ancient Athena Temple with its Periclean Treasury was not removed but maintained after the Persian wars, alongside the first Parthenon, if not also of the second, is another vivid instance of the inextinguishable interest of the aspect of the Acropolis at its splendid acme.

The help of such a cicerone as this, fully elaborating technical arguments with a patient enthusiasm and quiet humour, has been a privilege of which through his generosity many English students have tasted freely, and for which we now make acknowledgment. Dörpfeld's Athenian work has included the proposition, which Penrose's excavations afterwards justified, that the temple of Jupiter Olympius was octastyle, and had a large practical development in excavations on an extensive scale between the N.W. foot of the Acropolis and the Pnyx, tracing the ancient water supply and laying bare a thickly built-over quarter of the city. His remarkable work on the Greek Theatre should be mentioned and his interesting discovery that the original stage was on the ground level.

When Penrose, already venerable, undertook the first directorship of the British School at Athens, Dörpfeld afforded him unwearied assistance and support, and this kindly attitude has been maintained with all the subsequent Directors of our School.

Upon the Roll of those honoured by the Royal Gold Medal is found first in 1848 the great name of Cockerell, great as architect, explorer, and archæologist, followed by Canina in 1849 of Roman fame, Donaldson in 1851, Hittorf of Sicilian fame in 1855, Pennethorne alike architect and Grecian archæologist in 1865, Texier the Byzantine companion of our late colleague Pullan in 1867, Layard of Nineveh in 1868, Lepsius for Egyptian research in the following year, and the Marquis de Vogüé, great for his stimulating Syrian work in 1879, Penrose himself in 1883, Dörpfeld's companion and leader Schliemann in 1889, Lanciani of Rome in 1900, Choisy in 1904, and Evans in 1909—all archæologists great in word and deed, to whom, by favour of His Most Gracious Majesty King George V., the Patron of this Royal Institute of British Architects, is added to-day the name of Wilhelm Dörpfeld, with the sincere gratitude of his English confrères for the architectural stimulus that his discoveries have afforded and for the brilliant expositions by which his genius has made the hidden embodiments of ancient intellect retell the story of their birth for our instruction.

The PRESIDENT said they were all very grateful to Professor Pite for the able way in which he had put the great qualifications of Dr. Dörpfeld before the meeting. Before proceeding further he would ask the Secretary to read a letter which had been received from Dr. Dörpfeld.

The Secretary read the letter, as follows :—

Uhlandstr. 137, *Wilmersdorf, Berlin.*

Dear Sir,—I very much regret that yesterday, in consequence of another attack of the complaint from which I suffered last winter, I was obliged to telegraph to you that I should not be able to come to London to receive the Gold Medal in person. I had made all my preparations to start for England to-morrow, but now, by my doctor's orders, I am compelled to go to Carlsbad immediately, and so must unfortunately give up my proposed journey to England.

I must ask you to convey to the Royal Institute of British Architects and its President my very sincere regret that I cannot be in London on the 26th to receive the Gold Medal personally, and at the same time to express my heartiest thanks to the Institute for the very high honour they are doing me by bestowing this Medal upon me.

My one aim and object all the time that I have worked in Greece—now some thirty-four years—has been to emulate the late F. C. Penrose, and to further the interests of Greek architecture, as he did. It was always a very great pleasure to me, at the time when he was Director of the British School at Athens, to work together with this Nestor of Greek architects at the buildings of Athens; and, as I am sure you will understand, it is the greatest pleasure to me now to receive the same Gold Medal that was presented to Penrose in recognition of his important life's work.

The distinction conferred upon me will be an incentive to me for the rest of my life to carry on Penrose's principles. I shall be happy indeed if the condition of my health will allow me to work for some time longer at the investigation of Greek architecture and its history.

I propose to present a work on the original plan of the Erechtheum to the Royal Institute of British Architects in which F. C. Penrose was formerly greatly interested.

With renewed thanks and deepest gratitude,

Yours very faithfully,

Wilhelm Dörpfeld.

THE PRESIDENT, addressing Count William Bentinck: In asking you to convey this Medal which we are privileged to present to Dr. Wilhelm Dörpfeld, I ask you to be good enough to explain to him the circumstance, known to most, that this Medal is presented by his Majesty the King, and not by this Institute. We simply recommend the person as recipient, and are merely the agents through whom the Medal is presented. We all feel that our choice on the present occasion could not have fallen upon one more worthy of the distinction than Dr. Wilhelm Dörpfeld. In handing you the Medal, Count William Bentinck, I ask you to express to Dr. Dörpfeld our sincere sorrow that he is not able to be present, and the hope that he will shortly recover his strength.

COUNT WILLIAM BENTINCK: Mr. President, although we all regret that Dr. Dörpfeld's illness prevents him receiving this high distinction personally, I can assure you it will be a great pleasure to his Excellency the German Ambassador to convey this distinction which his Majesty King George V. has been gracious enough to present to Dr. Dörpfeld.

THE INTERLEAVED COPY OF WREN'S "*PARENTALIA*," WITH MANUSCRIPT INSERTIONS.

By LAWRENCE WEAVER, F.S.A. [*Hon.A.*].

Read before the Royal Institute of British Architects, Monday, 26th June 1911.

THE book I have the honour to present to the Institute this evening on behalf of a body of subscribers justly deserves the epithet "unique." Associated as it is with the man who made the greatest mark not only on London's buildings but on the larger field of English architecture, I trust that the following particulars as to its contents will be of interest.

Let me say at once that I can bring before you no novel facts about Sir Christopher Wren's position in history either as to his art or his life. I may even be accused, and with justice, of reciting facts which I have already put on record, for I communicated Papers on the subject to the Society of Antiquaries, to the *Architectural Review*, and to *Country Life*, before it seemed possible that I should ever speak of it to the members of this Institute as owners of the book itself. Let me first explain how I come to be fulfilling this pleasant office to-night.

Sir Christopher Wren died in 1723. His son, also named Christopher, piously if somewhat incompetently compiled the *Parentalia*, being notes relating to Matthew Wren, Bishop of Ely; Christopher Wren, Dean of Windsor; and Sir Christopher, the Architect. The book can hardly be called a biography, but it has served to supply the materials for the various lives since written. Sir Christopher's grandson, Stephen, published the volume in 1750, Christopher the younger having died in 1747. There is a copy in our Library.

The manuscript of the book is in the Library of the Royal Society, to whom it was "presented by Mr. Wren, February 21st, 1750-1." A reprint of the sections relating to Sir Christopher alone was issued in 1903 by Mr. C. R. Ashbee, and some additional drawings of Wren's churches were included therein. In one respect, however, this reprint does the original publication an injustice. Wren's tract on the Artemision at Ephesus is illustrated by engravings which do not reproduce the extraordinarily delicate execution of the drawings bound up with the manuscript of the *Parentalia*, as do the engravings in the original issue of the book by the hand of Flitcroft.

Stephen Wren was unmarried, yet owned a daughter Margaret, who assumed the name of her father. The copy now on the table bears her autograph on the title-page, and on the very delightful binding her initials "M. W." in gold. By her it was given back into the legitimate line. The family of Sir Christopher ceased in the male line with the death of Christopher Roberts Wren, his great-great-grandson. The latter's daughter married Mr. Hoskyns, who assumed the Wren Arms by Royal License and became Mr. Wren Hoskyns. Her daughter married the Rev. C. F. C. Pigott, and has no children. In Easter 1909 I saw for the first time the heirloom copy of the *Parentalia*. After somewhat prolonged negotiations I was successful in arranging with Mrs. Pigott that I should purchase the volume for £200, if I could secure subscriptions for that amount, in order that the book might be deposited for ever with this Institute. Owing to the generosity of a number of gentlemen, some members of the Institute, some of the Society of Antiquaries, and some of both, I was able to achieve this end, and Mrs. Pigott helped me materially by contributing £45 of the total herself. I should explain that she felt it a duty to receive for the book a sum of not less than £200 which she could bequeath to some collateral descendants of Wren in indifferent circumstances, and she has made provision to this end. I may add that when I first became acquainted with the book, it was designed that it should go out of the country on Mrs. Pigott's decease, and I think it fortunate that by the ready help of the lovers of Wren's memory such a misfortune has been averted. In the box which contains the *Parentalia* I have deposited another, but slim, book which contains a list of the subscribers and their autographs, and I have ventured to add copies of my previous notes on the book, so that its whole story may be conveniently accessible.

I return now to the *Parentalia* itself. It is interleaved with various manuscripts, engravings, and drawings. The original *Parentalia* had eleven illustrations only, viz., portraits of the three great Wrens and of Christopher (the compiler), two plates of mathematical schemes (rather uninteresting), two of the rafters, &c., of the Sheldonian Theatre, one of some architectural diagrams, and the Ephesus plan and elevation already mentioned. To the interleaved copy have been added about 140 engravings, including portraits of Wren's contemporaries and views of his and other buildings, &c., as, for example, Evelyn's plan for the rebuilding of London, in addition to the important manuscripts and drawings I shall now shortly describe and show on the screen.

The *Parentalia* is divided into many Parts, Sections, Appendices, and Tracts, but for the purposes of these notes I will divide it into three, dealing with the interleaved documents relating to the three Wrens :—

1. Matthew Wren, Bishop of Ely.
2. Christopher Wren, Dean of Windsor.
3. Sir Christopher Wren.

The Bishop was elder brother of the Dean, and the Dean the father of Sir Christopher.

The manuscripts relating to Matthew are two only : (*a*) a Petition by him as Registrar to the King's Majesty as Sovereign of the Order of the Garter, and (*b*) a page of rough notes apparently headings of sections of the Statutes of the Order.

In the *Proceedings of the Society of Antiquaries* abstracts of both these are printed. In the former, reference is made to the *Black Book* which contained the "chiefest records of the Order"; it is, therefore, of interest to note that this book and other documents were rescued by Dean Wren from the hands of the Trustees appointed by the Long Parliament for sale of the King's goods, "by great application, expense, and long attendance on the Trustees," were preserved by him till his death in 1658, and were handed over at the Restoration to the new Registrar, Dr. Brune Ryves, by his son, afterwards our Sir Christopher.

Venerande Pater,

Sententia apud antiquos dubiata est, quam ex ore tuo me habuisse memini, Parentibus nihil posse reddi equivalens, Tropaeum cum cura, et perpetuis laboribus circa puerum, suos immensi fortasse amoris indicium. At praecepta illa mihi toties repetita, quae animum ad bonas Artes, & Virtutem impellerent, omnes divos amore superarent. Quod meum est, efficiam, quantum potero, ne ingrato fiant haec munera. Deus Optimus Maximus conatibus meis adsit, et Tibi, cui visceribus illis Paterna pietatis, quae maximè vobis, praestet, precor orab

Filius tuus

Tibi omni obsequio devotissimus
Christophorus Wren.

Has tibi primitias Anni, Pater, atq; laborum
Praesto (pervexiguas quamlibet esse) feram.
Quas fore in messem posse olim crescere, valde
Si placido accepies tu, fovearq; sinu.

To you, Deare Sir, your Son presenteth heere
The first fruits of his pains, and of the Yeare:
Wich may (though small) in time an harvest grow,
If you to cherish these, your favour shew.

E Musæo meo
Calendis Januarij
1641.

* Scripsi hoc, Ætatis suæ, Decimo,
ad Octobris 20; elapso.

FIG. 1.—LETTER BY WREN IN HIS TENTH YEAR.

We come now to manuscripts relating to Dr. Christopher Wren, who received the Deanery of Windsor and the Registry of the Order of the Garter on the translation of Dr. Matthew Wren from the See of Norwich to that of Ely. These amount to nine in all, and are also described in the *Proceedings of the Society of Antiquaries*.

The next items are various letters to Stephen Wren from the heads of Cambridge colleges acknowledging copies of the *Parentalia* in complimentary fashion.

We now come to the inserted papers relating to Sir Christopher :—

1. A letter in Latin from Sir Christopher Wren to his father, beautifully written and expressing filial gratitude in a high degree, and below a Latin verse with its English translation

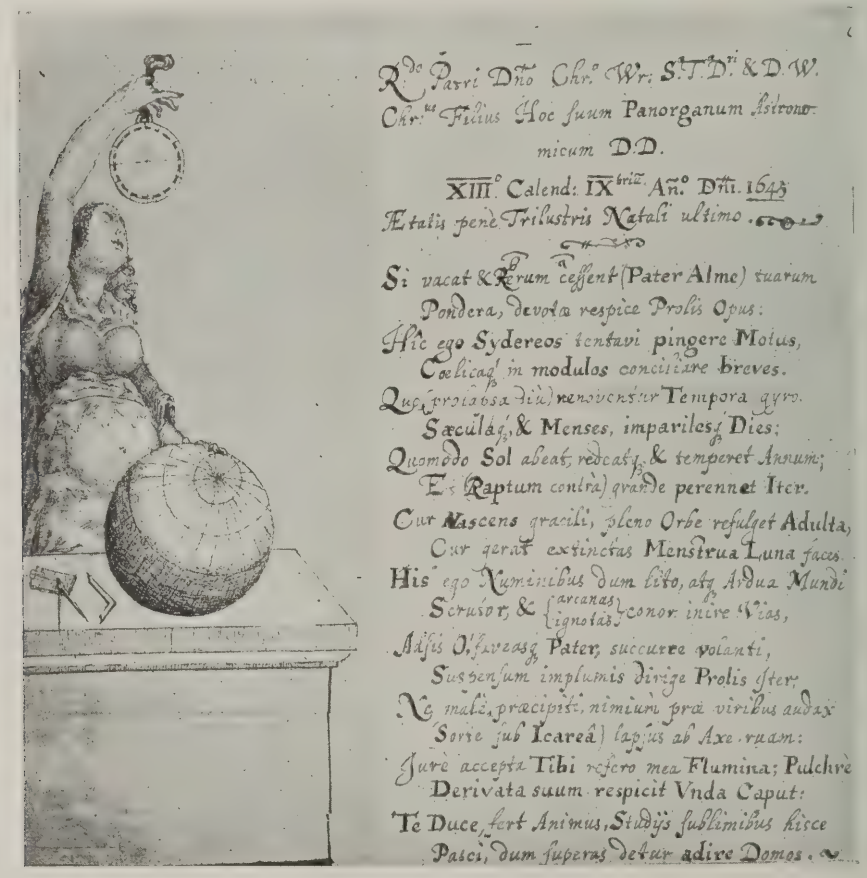


FIG. 2.—DRAWING AND LETTER IN LATIN VERSE BY WREN IN HIS FOURTEENTH YEAR.

beneath, dated "E Musaeo meo, Calendis Januarii 1641." At the foot the delighted father has written "Scriptum hoc Aº aetatis suae decimo ab octobris 20º elapso." A notable production for a boy of nine [fig. 1].

2. A versified paraphrase of the 1st to the 14th verse of the 1st chapter of St. John's Gospel. The penmanship of this, which possibly was written at Westminster under the eye of Dr. Busby, is admirable, and that Wren retained this merit of legibility until the end of his life is evident from later letters.

3. A letter in Latin verse to his father dated 13th September 1645 [fig. 2], dedicating

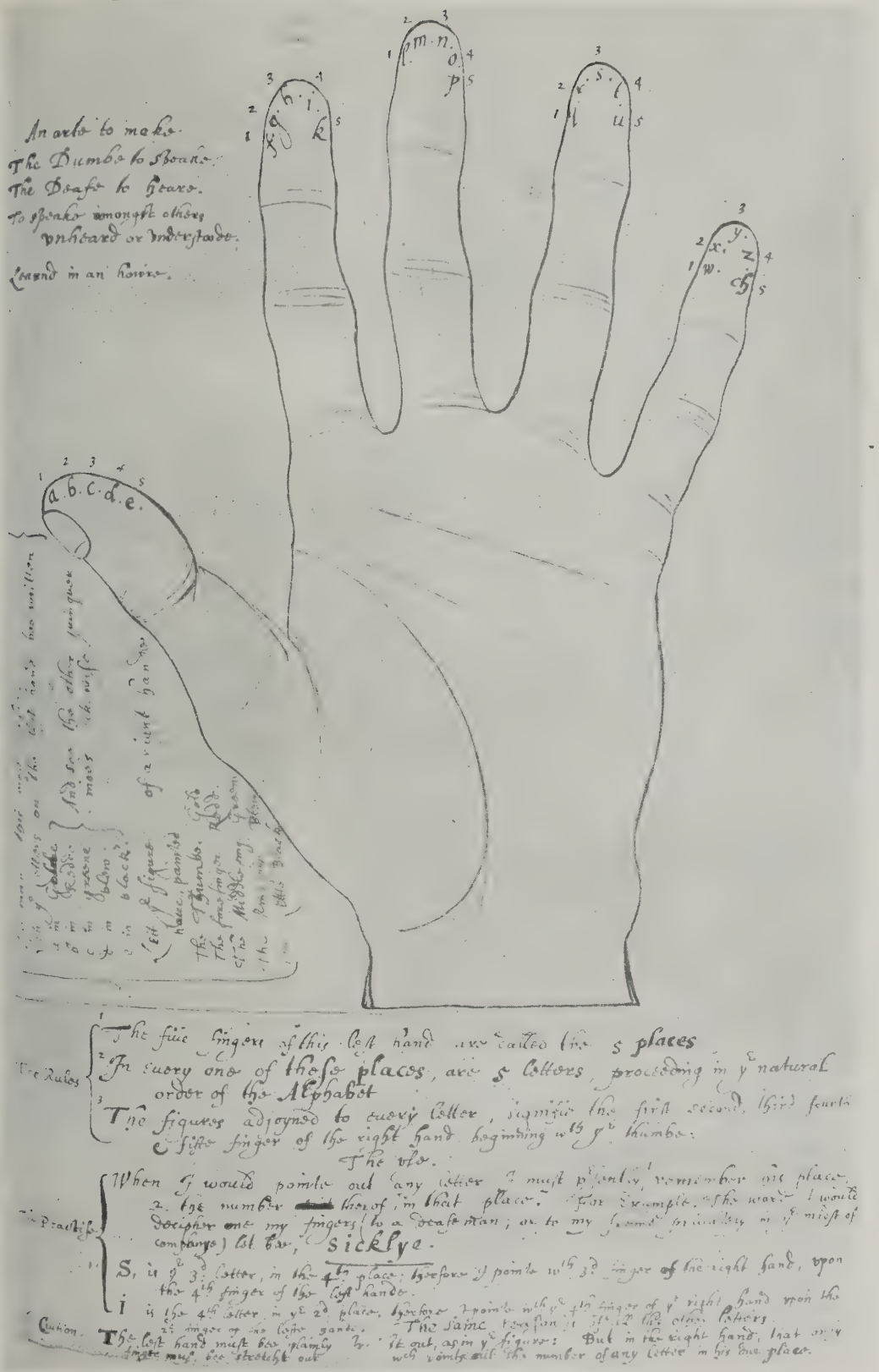


FIG. 3.—DEAF AND DUMB LANGUAGE INVENTED BY WREN.

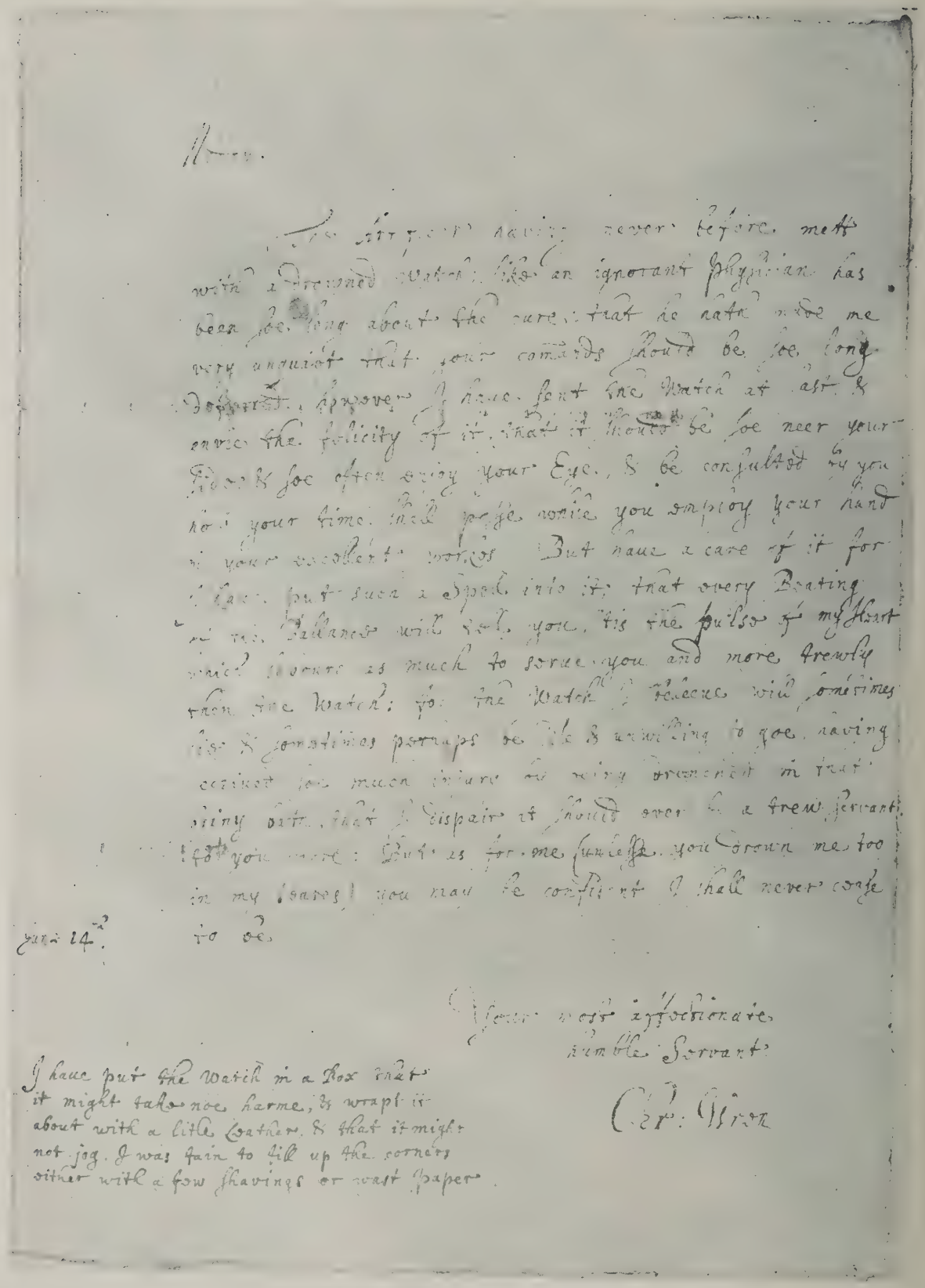


FIG. 4.—LETTER FROM WREN TO FAITH COGHILL WHO BECAME HIS FIRST WIFE.

to him an instrument called "Suum Panorganum Astronomicum," and a tract *De Ortu Fluminum*.

4. On the same sheet are pictures of two hands, headed ΧΕΙΡΟΛΟΓΙΑ.

5. On the next page, another hand and various notes showing the working of the deaf and dumb language invented by Sir Christopher [fig. 3].

6. Love letter written by Sir Christopher to Faith Coghill, who became his first wife [fig. 4].

7. Letter dated 7th March (and probably of 1698) from Sir Christopher, now an old man, to his son Christopher then travelling abroad.

8. Letter dated 12th October 1705, from Sir Christopher to his son again abroad.

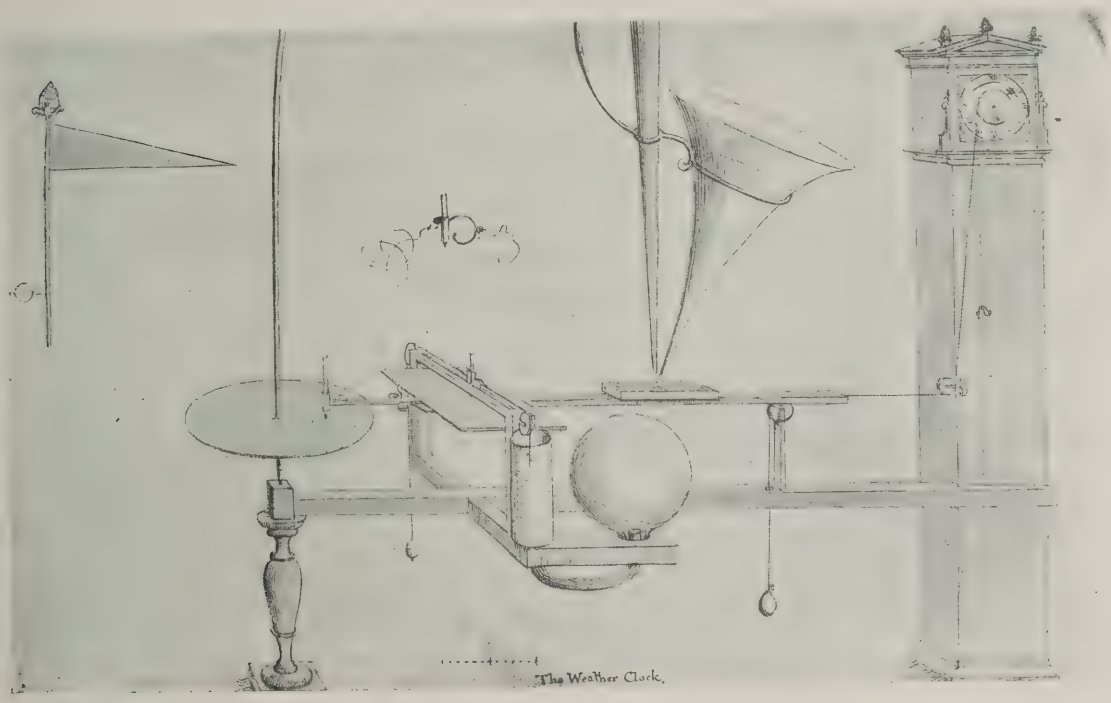


FIG. 5.—DRAWING IN INK OF THE WEATHER-CLOCK INVENTED BY WREN.

9. A summons of 18th November 1713, to Sir Christopher to attend a meeting with the Duke of Ormonde as Commissioner of Chelsea Hospital.

10. A drawing in ink of the weather-clock invented by Wren [fig. 5].

11. Manuscript of the Latin text, fourteen pages foolscap, in the younger Christopher's writing, of the Inaugural Oration delivered at Gresham College in 1657 by Wren, then twenty-five years old, on his being appointed Professor of Astronomy. The *Parentalia* prints an English translation of part of this, and says "The Oration is extant, and may have a place among his compleater works." It has not, however, as far as I know, ever been printed.

12. A large sheet of elaborate tinted drawings showing the anatomy of the river-eel, with full explanatory notes in Latin [fig. 6]. This seems a peculiarly valuable commentary on the wide range of Wren's knowledge and interests.

13. A large sheet dealing with the rising of the sap in trees, beautifully written, but not by Wren.

Fig I

Fig II

Fig III

Fig IV

Fig V

Fig VI

Fig VII

Fig VIII

Fig IX

Fig X

Fig XI

14. Manuscripts of the problem set by Blaise Pascal for the mathematicians of England, and of Wren's solution. These are reproduced by Miss Milman.

15. Thirty pages cut out of a publication called *English Architecture*. The descriptions of those churches of which Wren was architect have been neatly cut out and the chapters renumbered so as to make it a consecutive story.

16. A *Chronologica Series Vitae et Actorum Domini Christophori Wren*, in four pages. Miss Milman says this was prepared by the younger Christopher and collated by Sir Christopher, but on what authority I cannot say. At the end, following the grim note, "Exauctoratus est"—superseded in the 86th year of his age, and the 49th of his surveyorship—are the texts in Greek "And there arose a King who knew not Joseph" and "Gallio cared for none of these things." A fair comment on George I.

17. A manuscript Discourse on Architecture of 14 pages, by Sir Christopher, but in the writing of Christopher his son. This has been printed by Miss Phillimore in an appendix to her *Life of Wren*. I show on the screen an engraving of the Ark, interleaved at this point amongst others pertinent to Wren's argument.

18. Sketch by Wren of his conjectural restoration of the Mausoleum of Halicarnassus [fig. 7]. I dealt at some length with this extraordinarily interesting drawing in the *Architectural Review*, and will delay you no longer now except to show slides (*a*) of this drawing; (*b*) of Wren's conjectural plan, which I found at the Royal Society, preserved with the manuscripts of the *Parentalia;* (*c*) Goodchild's restoration based on that plan [fig. 8]; and (*d*) Adler's restoration.

Amongst Mrs. Pigott's other possessions are a portrait of Wren as a young man [fig. 9] and the cabinet given to him by Queen Anne, of both of which I show slides.

I also exhibit to-night the engraving, done in the chiaroscuro manner, of Wren's portrait by Klostermann, set in a framework of figures and buildings by Cooke. It is a rare print, and was given to me by Mrs. Pigott, having been previously always in the hands of the Wrens.

Encouraged by our President to give to this evening's Paper something of the character of a Wren festival on a small scale, I have ventured to import matters not relating to the *Parentalia* itself.

Firstly, I have collected and am exhibiting a series of large photographs of buildings either designed by Wren, or attributed to him or belonging to his school, and at each end of the scale have added some buildings which it is reasonable to assume had their influence on his work, and others which in turn were the result, more or less, of his influence.

With the exception of the choir of St. Paul's Cathedral and some College Chapels these photographs show his secular work, and I am indebted for their loan to *Country Life*, from the pages of which paper they are reproduced. In order to make a balance between his secular and ecclesiastical work, I show, by the courtesy of Mr. Batsford, some of the plates which illustrate Birch's *London Churches*. From the same source is an engraving of Cockerell's Tribute to Wren, with the added interest of a document (included in the frame) bearing Wren's signature.

My next exhibit is, perhaps, not the least interesting. In the Library of Shirburn Castle there is a copy of Wotton's *Elements of Architecture*, first edition, 1624, annotated by the hand of Sir Christopher himself. By the courtesy of the Earl of Macclesfield I am able to show you some photographs of the more interesting pages [fig. 10].

The principal annotations are as follows:—

On page 48 Wren makes a practical query with regard to the laying of stones or bricks wedgewise in a flat arch. Where Wotton says of staircases (on page 58) that "the breadth of every single step should never be less than one foot, nor more than eighteen inches," Wren adds "nor so much as eighteen inches at any time, for if a step exceed twelve, those

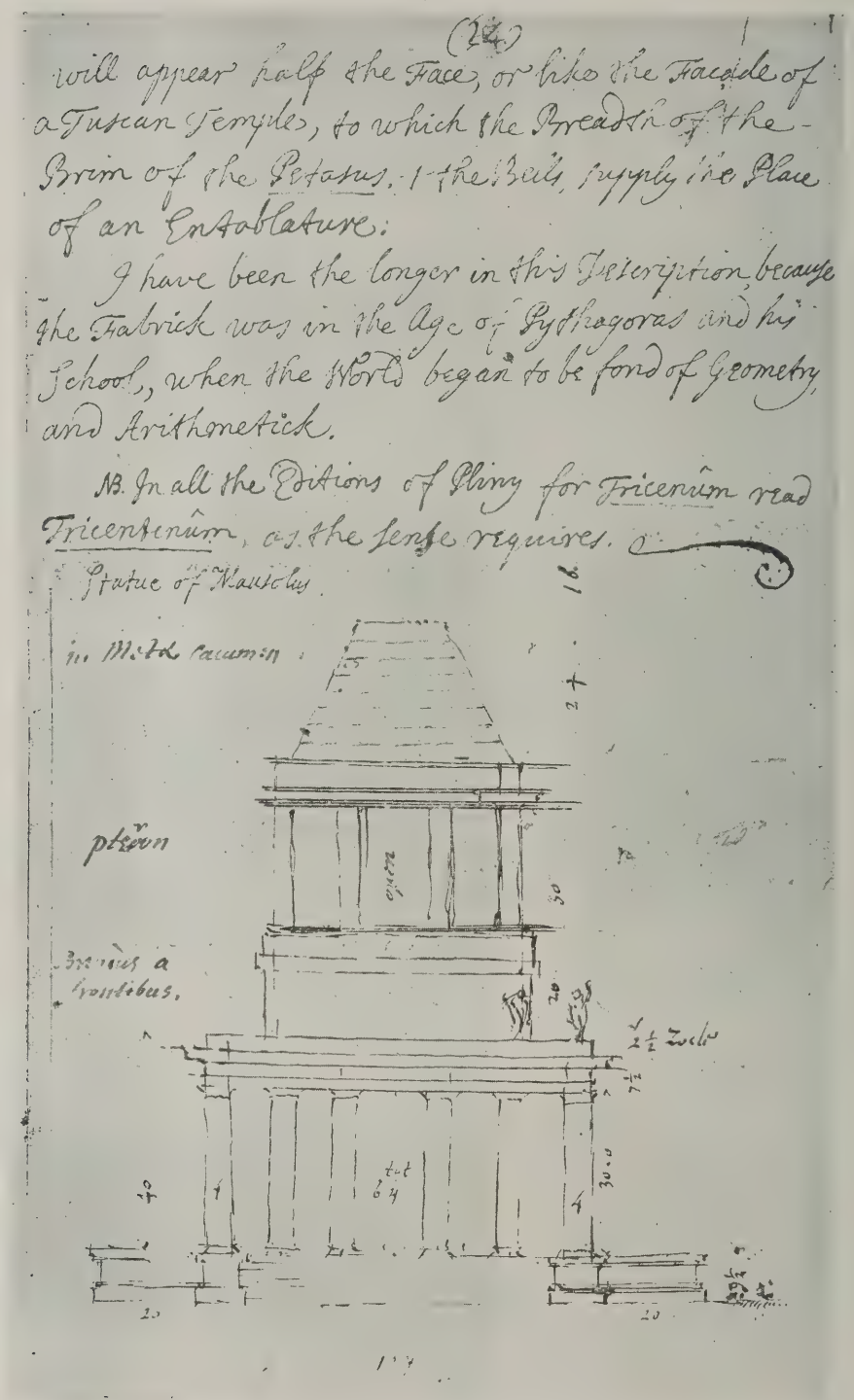


FIG. 7.—WREN'S SKETCH ELEVATION OF THE MAUSOLEUM OF HALICARNASSUS.

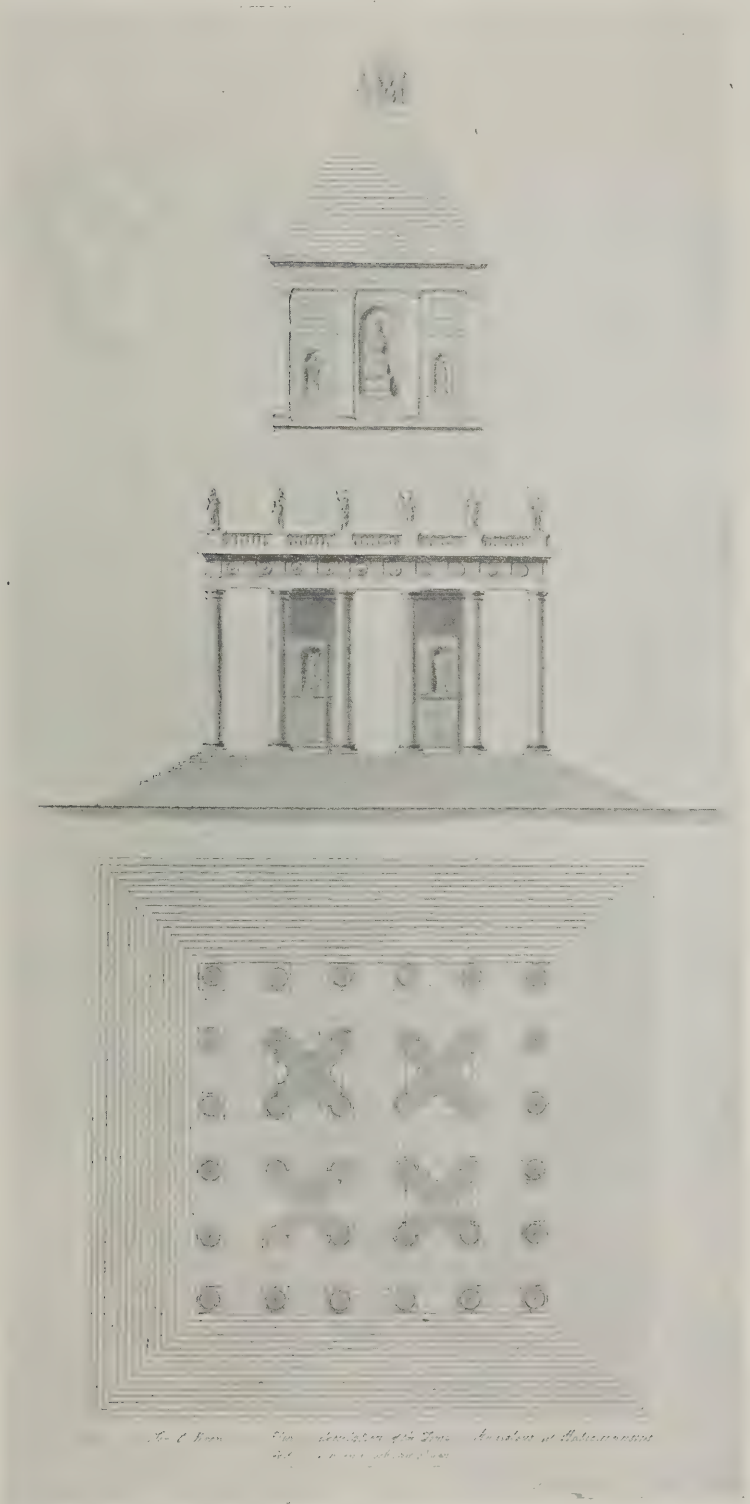


FIG. 8.—GOODCHILD'S RESTORATION OF THE MAUSOLEUM BASED ON THE "PARENTALIA."

who have but short (legs) must tread twice upon the same step, especially in descent, which, to women especially, is troublesome, and dangerous to the hasty." One bears in mind in this connection that Wren himself was of short stature. He adds other notes on the making of staircases on the same page. On page 55 Wotton discourses of the advantage of luminous rooms, "Indeed, I must confess that a frank light can misbecome no edifice whatsoever, temples only excepted, which were anciently dark, as they are likewise at this day in some proportion, devotion more requiring collected than defused spirits," on which Wren makes the comment that Christ Church in London was practically nothing but window, and was fitter for a stage than for a church, "although for the kind of building it is a thorough piece of work." On gardens and their treatment with aqueducts, walks, &c., Wren makes the note, "And for disposing the current of a river to a mighty length in a little space I invented the Serpentine, a form admirably convoying the current in circular and yet contrary motions upon one and the same level with walks and retirements between to the advantage of all purposes, either of gardenings, plantings, or banquetings . . . far beyond the bungarly (!) invention at Hatfield so much liked for pleasure." Up and down the book there are scattered all manner of other interesting notes. There is a practical thought in Wren's reference to the very small chimneys in use in Spain, where charcoal was sold by weight. He has evidently had difficulty with smoky chimneys, for to Wotton's observation, "Then there is a repulsion of the fume by some higher hill or fabrique that shall overtop the chimney," he makes the significant comment, "as in our buildings here." To Wotton's recommendation that exact models should be made of all proposed buildings, Wren adds that the model made for the fabric of the new schools in Oxford was three feet square and cost twenty marks. In connection with terracing any story (by which Wotton seems to have meant the making of loggias), Wren remarks, "Terracing is most commended in hotter climates, and in our country must serve mostly for summer rooms." To Wotton's general reflection that "various colours on the out-walls of buildings have always in them more delight than dignity," Wren adds the criticism in Latin that in this particular the noble building of Lord Exeter at Wimbledon also offends. He seems, however, to have been friendly to the use of mosaic, for he says, "Herein excels that excellent cave at Bodington wherein stands the brazen hydra with seven springs out of seven heads."

On page 79 are some careful notes and a diagram relating to the construction of timber roofs.

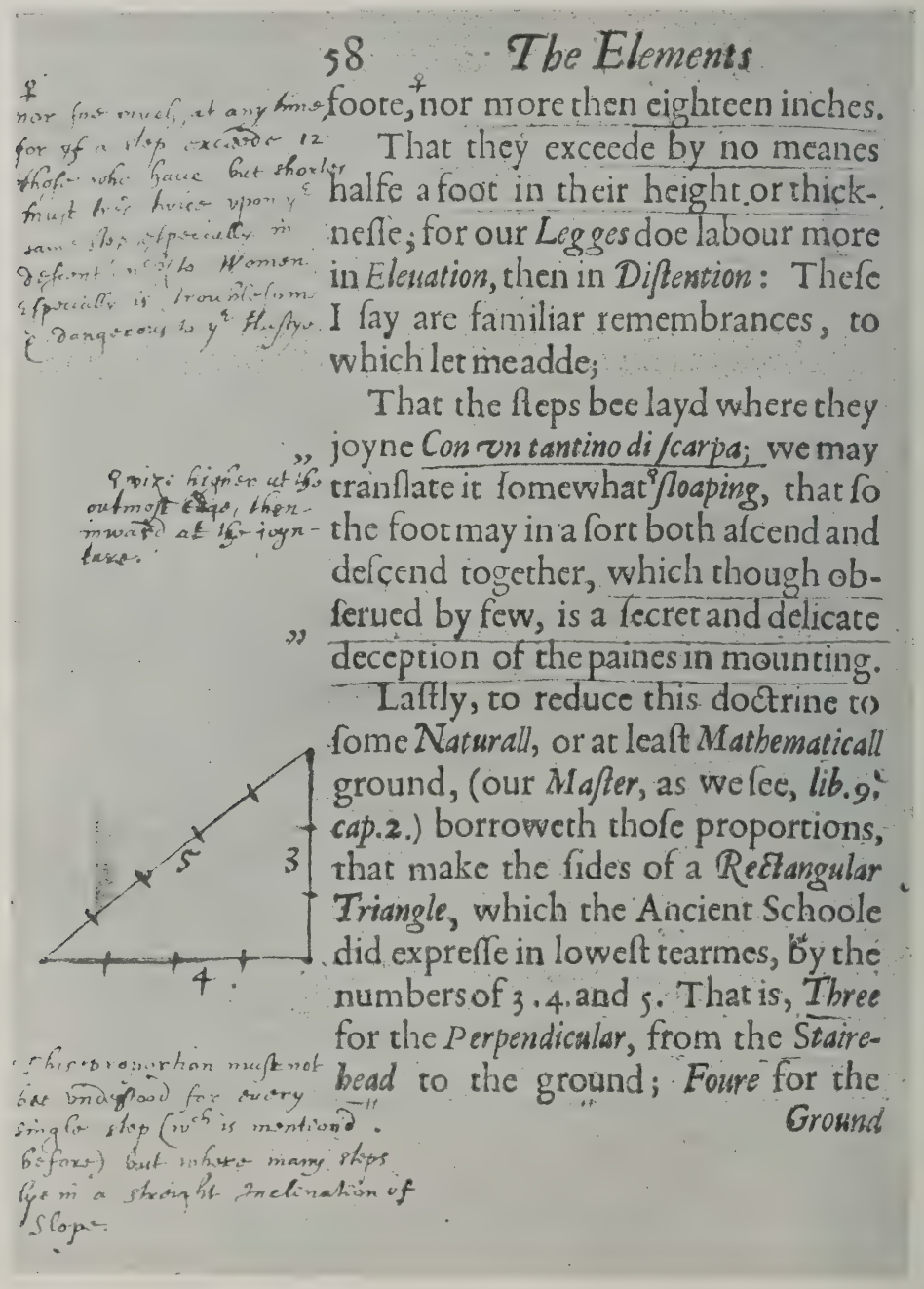
With regard to the art of the plasterer, Wotton had said, "Plastique is not only under sculpture, but indeed very sculpture itself, with this difference that the plasterer doth make his figures by addition, and the carver by subtraction." Wren makes short work of this with, "This proposition can never hold true to the name of sculpture."

At the end of *The Elements* Wotton promises another work, "A Philosophical Survey of Education, which is indeed a Second Building or Repairing of Nature, and, as I may term it, a kind of moral architecture." Wren must have taken considerable pleasure from *The Elements*, for in the margin he has written "Oh that we might see that, so long expected."

My next exhibit is an interesting little book in my own possession. It is a copy of the third edition of Elyot's *Governour*, published in 1546 and bearing on the title-page the autographs not only of Sir Christopher Wren, but of his father, Dean Wren. It is of interest to find that the index of the volume gave a wrong reference to the page on which are found Elyot's comments on "othes." This mistake in the index has been corrected in ink. When we remember that Sir Christopher posted up at St. Paul's a somewhat drastic warning to workmen who indulged in profanity, it is at least not impossible

FIG. 9.—PORTRAIT OF WREN AS A YOUNG MAN.

that before drafting his notice he looked up the *Governour* to see what Elyot had to say on the subject, and in looking it up, discovered the index was wrong, and corrected it.



58 *The Elements*

nor soe much, at any time, for yf a step exceede 12 those who have but shorter must tread twice upon y^e same step especially in descent: wch to Women especially is troublesome & dangerous to y^e Eyes.

foote, nor more then eighteen inches. That they exceede by no meanes halfe a foot in their height or thicknesse; for our *Legges* doe labour more in *Eleuation*, then in *Distention*: These I say are familiar remembrances, to which let me adde;

That the steps bee layd where they joyne *Con vn tantino di scarpa*; we may translate it somewhat *sloaping*, that so the foot may in a sort both ascend and descend together, which though obserued by few, is a secret and delicate deception of the paines in mounting.

" 9 pix: higher at ye outmost edge, then-inward at ye joyntare.

Lastly, to reduce this doctrine to some *Naturall*, or at least *Mathematicall* ground, (our *Master*, as we see, *lib. 9. cap. 2.*) borroweth those proportions, that make the sides of a *Rectangular Triangle*, which the Ancient Schoole did expresse in lowest tearmes, by the numbers of 3. 4. and 5. That is, *Three* for the *Perpendicular*, from the *Staire-head* to the ground; *Foure* for the *Ground*

5 3 4

" this proportion must not be vnderstood for every single step (wch is mentioned before) but where many steps lye in a straight Inclination of Slope.

FIG. 10.—PAGE OF WOTTON'S "ELEMENTS OF ARCHITECTURE," FIRST EDITION (1624). ANNOTATED BY WREN.

I am afraid you will think my exhibits are rather miscellaneous. The next is a photograph and two drawings of the Manor House, Grooms Hill, Blackheath. This is not

generally accepted as being the work of Wren, but the deeds show that it was built in 1697, and this coincides exactly with the time when Wren was building at Greenwich and Morden College. Moreover, the treatment of the panelling is very distinctly in the Wren manner. Sir James Robinson, for whom the house was built, was acting as a Crown officer in this district at the same time as Wren, and would be in intimate touch with him.

I am indebted to Mr. J. W. Dinwiddy for the loan of these pictures.

I also exhibit, by the courtesy of the Bath Stone Firms, Ltd., the originals of some warrants and correspondence of Wren, in connection with the obtaining of the Portland stone for the building of St. Paul's Cathedral.

My last point is a somewhat vague one, but is perhaps worthy of a brief record. I have been informed that there is a lady living, named Mrs. Howe, who claims to be descended from Wren in the direct line. This cannot be established, but she appears to be descended from a Thomas Wren, of Ware, Hertfordshire, who had a certain reputation as an architectural sculptor and as a modeller of plaster ceilings. It is, at all events, of some interest to know that other people of the same name were concerned with architecture, and my reference to it here may possibly be the means of bringing something more definite to light.

Nothing now remains to me but to thank you for listening to remarks which I am afraid are particularly disjointed, and to express once more my pleasure at having been the means, however humble and indirect, of securing to the Institute the possession of the heirloom copy of Wren's *Parentalia*.

P.S.—Since the above was in type, the news has reached me of the death on the 12th June of Mrs. Pigott, the last owner of the interleaved *Parentalia*, to whom reference has been made. I feel sure that the Institute will learn with deep regret of the death of the last surviving direct descendant of Sir Christopher Wren.—L. W.

VOTE OF THANKS.

THE PRESIDENT (MR. LEONARD STOKES): I feel sure you wish me, Gentlemen, to accept this volume from Mr. Weaver, on your behalf; and, in doing so, to express our grateful thanks for all the trouble he has taken in the matter. I will ask Mr. Statham to propose a formal vote of thanks.

MR. H. HEATHCOTE STATHAM [*F.*]: I have the privilege of asking you to record a vote of thanks to Mr. Weaver for this exceedingly interesting paper, which has brought before us a good many interesting personal characteristics of our great architect. There is one point on which I should like to put a query, namely, on the remark that plaster was an art in which modelling was done by addition, and sculpture by subtraction, and Wren's very caustic dismissal of that observation. I think the remark was perfectly right before the days of clay modelling. We all know the description of how Michael Angelo flew at a block of marble as if he would tear a figure out of it, and that was by taking away part of the substance of the marble. Of course, in these modern days, when sculpture is all modelled in clay first, sculpture is done by addition as much as is plaster-work. But, at the time when Wren wrote, the remark was right, and Wren was wrong. This has been described as a sort of Wren Festival. I would suggest a word or two as to exactly what it is that we really owe to Wren. And I begin by quoting the words of a better man than myself, in a brilliant lecture which was given, many years ago, by Professor Lethaby, a lecture which will be remembered by all who were present at it. He said: "It was the peculiar merit of Wren that he saw exactly what could be done with the Renaissance box of bricks." That is a very characteristic way of putting it. Architecture, at the time that Wren practised, was no longer, as in the Mediæval period, the evolution of masonry design out of construction; it was the putting together of details which were all there for you by tradition. You had your column and cornice and the other details, and you knew exactly what they were all to be; and the question was how to put them together for the best effect. I think Wren took some things out of the box of bricks which he might have left alone, and there has been a rather too indiscriminate worship of his work. For instance, all those carved swags of realistic fruit and flowers; as Ruskin said, on St. Paul's Cathedral they are like so many Van Huysum flower pictures cut into stone. I think you have only to remember the best carved details of Greek and Byzantine work to feel that. And I think it is rather a pity that these things are imitated nowadays by people who think that they are carrying on the style of Wren. But I do not believe that Wren had much to do with them. Those were not the days of the full-size detail drawings. Wren got his columns in their places, and sketched in roughly where the swags should come, and an accomplished carver of the period worked it out in his own way. So what was it that Wren really did in his putting together, in Mr. Lethaby's phrase, of materials from the Renaissance box of bricks? I think that Wren, almost more than anything else, showed us that architectural design means the expression of an idea in plan and section. That is almost more remarkably shown in his numerous London churches than even in his great Cathedral. Look at the plans of those churches; there are no two of them alike, but they each express an idea. And all the towers which he built, although the details are, again, taken out of the box of bricks, are different; each one a different idea. And in spite of the fact that much of the detail is open to criticism, we see in those churches a representation of architecture as a means of expressing ideas, independently of detail. There was one further quality which Wren added to the others; that which is called, ironically, common sense, because it is so very uncommon. I was once shown by Mr. Penrose a very characteristic instance of that. I was in St. Paul's Cathedral with him. We had been looking at the model of the first design for the Cathedral—the design which I think most of us wish had been carried out instead of the present one. At the end of the gallery in which the model stood was a door, opening immediately upon a rather steep set of stone steps leading down to a lower level. And Penrose pointed out to me that the first step was on the inside of the door. He said Wren was not going to catch you with a sudden fall of steps without your knowing it, so he put the first step inside, so that you might know there were going to be steps. It is a little thing, but it is a very good instance of Wren's common sense. Some of us may remember a certain modern clock tower in London, in which the architect quite forgot that the clock weights wanted a chase to fall down; and two or three thick stone landings had to be cut through afterwards to let the weights fall. I do not think Wren would ever have made that mistake. Through all his works you find that feeling; he always realised what had to be done, and he made allowance for it. But, to come back to my main point, I think that the real point for which we may honour Wren as an architect is, that he showed that, in spite of designing in what was rather a bad school, in spite of much questionable detail, he showed how architecture should be made to express, as I have said, ideas, very various ideas, in plan and section. And that is what I believe architecture means.

MR. PAUL WATERHOUSE [*F.*]: Sir, I hope you will allow me, with no qualifications, but with

much enthusiasm, to second this vote of thanks. I think that the word which springs to one's lips as one looks at the illustrations of Wren's thought in these drawings is Leonardo. One realises that Wren stands up a large and conspicuous figure among that very small group of men who have seemed capable of excelling in almost anything that they put their hands to. Leonardo is the prince of those men; and Wren seems to have come very near him. We have had illustrations to-night of his extraordinary versatility of character; and one is led once more to formulate the theory that the greatest architect must necessarily be a man of all-round knowledge. It is a pleasant theory, and one which we continue to endeavour to hold, though it is constantly overborne by facts. We have been shown to-night that, besides his many other qualifications, Wren was, as we might have expected, a humourist of the finest kind. I am sometimes tempted to think, in connection with creative artists like architects, of Bacon's division of men into three classes, represented by three insects: the ant, the spider, and the bee. I hope there are very few architects who are spiders in Bacon's sense. The meaning of Bacon's comparison was that the ant was a collector and nothing else, the spider was a producer without collecting, and that the bee, the most assiduous of collectors, was also the most splendid of producers. The best architect, of course, is the bee. If any man was qualified to be a spider, it was Sir Christopher. His force and inventive genius were such that he might, if he had been foolish enough, have thrown the past aside and started afresh. Thank Heaven he did nothing of the kind. The humblest makes the greatest of men. He realised the immense power of working in harness, and he industriously collected himself the harness in which he so successfully worked. I feel that we owe a very great deal to Mr. Weaver, not only for the work he has undertaken in engineering this gift, which without him could not possibly have taken place, but also for the extremely sympathetic and delightful manner in which he has put before us the value of the book which he has been instrumental in securing to us. He has given to us fresh lights on the character of Wren, and he has done it with a genial sympathy which I feel sure would delight even the spirit of Wren himself.

THE PRESIDENT: In asking you to pass this vote of thanks, I would call your attention to the fact that Mr. Weaver has collected this very magnificent exhibit of photographs, prints, and drawings which you see on both sides of the room, and I hope you will look at them before you go home this evening. I now have pleasure in asking you to pass a most hearty vote of thanks for his interesting paper and the collection of illustrations which he has brought before us this evening.

The vote of thanks was carried by acclamation.

In the introduction to his Paper Mr. Weaver mentions that in the box which contains the *Parentalia* he has deposited another book comprising notes and memoranda connected with the presentation copy, so that its whole story may be conveniently accessible. This is a tastefully got-up small folio in white buckram, entitled "Some Notes concerning the Interleaved Heirloom Copy of Wren's *Parentalia* presented to the Royal Institute of British Architects at the Ordinary General Meeting held on 26th June, 1911, by Lawrence Weaver, on behalf of the Subscribers whose names are given overleaf." This and the following brief Preface form an interesting historical note:

"The Interleaved Heirloom Copy of the Parentalia was in the possession of Sir Christopher Wren's family until 1911, when it was purchased from his last surviving direct descendant, Mrs. Pigott, on behalf of a body of Subscribers. They contributed five pounds each, with the exception of Mrs. Pigott herself, who subscribed forty-five pounds, so that the amount of £200 might be made up. This sum she has by Will devised to some collateral descendants of Sir Christopher Wren. It is the desire of the Subscribers that the volume shall be preserved in the Library of the Royal Institute of British Architects for ever, as a memorial of one of England's greatest artists."

On the following pages are the names and autographs of the donors—viz.: Sir Lawrence Alma-Tadema, O.M., R.A. [*Hon.F.*]; John Belcher, R.A. [*F.*]; W. D. Caröe, F.S.A. [*F.*]; Thomas E. Collcutt [*F.*]; Hubert C. Corlette [*F.*]; "Country Life"; John D. Crace, F.S.A. [*Hon.A.*]; E. Guy Dawber [*F.*]; Sir Ernest George, A.R.A. [*F.*]; H. Wilson Holman, F.S.A.; Edward Hudson, F.S.A.; Sydney D. Kitson, M.A., F.S.A. [*F.*]; W. R. Lethaby, F.S.A. [*F.*]; Sir W. H. Lever, Bart. [*Hon.A.*]; R. S. Lorimer, A.R.S.A. [*F.*]; Edwin L. Lutyens, F.S.A. [*F.*]; Arnold Mitchell [*F.*]; Albert W. Moore [*F.*]; John Murray [*F.*]; Ernest Newton, A.R.A. [*F.*]; Sir Charles Nicholson, Bart. [*F.*]; Philip Norman, F.S.A.; Mrs. Pigott; Sir George Riddell; John S. Sargent, R.A. [*Hon.A.*]; Frank W. Simon [*F.*]; John W. Simpson [*F.*]; John Slater, B.A. [*F.*]; Leonard Stokes [*President*]; Edward P. Warren, F.S.A. [*F.*]; Paul Waterhouse, M.A. [*F.*]; Lawrence Weaver, F.S.A. [*Hon.A.*]; Sir Aston Webb, C.V.O., R.A., F.S.A. [*F.*].

The volume also contains two MS. letters from the late Mrs. Pigott relating to the purchase of the work, dated in February and March last, and prints of Papers by Mr. Weaver on the subject of the heirloom copy which have appeared in the *Proceedings of the Society of Antiquaries*, the *Architectural Review*, and *Country Life*.

REVIEWS.

BUILDING CONSTRUCTION.

Building Construction, in 2 vols. Vol. I. By Beresford Pite, Frank Baggallay, H. D. Searles-Wood, E. Sprague. (The Architects' Library.) With Illustrations. 8vo. Lond. 1910. *Price* 18*s. net.* [*Longmans, Green & Co. 39 Paternoster Row.*]

The second work of "The Architects' Library" Series, the first volume of which has now been issued by Messrs. Longmans, Green & Co., deals with building construction.

In his short preface Professor Simpson, the Editor, states that the aim of this work is, "whilst treating the subject in a practical manner, to give it also architectural expression. Existing books on Building Construction are in most cases excellent in some respects, but too often fail to place before students the treatment which is necessary if buildings are to be not only sound but also architecturally satisfactory. Building Construction in itself is merely a skeleton; its effective covering is Architecture."

The task of clothing the dry bones has been entrusted to Professor Beresford Pite, Mr. Frank T. Baggallay, Mr. H. D. Searles-Wood, and Mr. E. Sprague.

Professor Pite's contribution deals with brickwork in a comprehensive manner from foundations to chimney stacks. The nature and methods of manufacture of the materials employed are described and the historical aspect of the subject is touched upon.

In referring to the question of foundations, Professor Pite very rightly lays stress on the fact that the texture of the subsoil should be equally solid over the whole area covered by the building. He goes on to say that foundations of such portions of buildings as have to carry a great weight, as in the case of a church tower, should be put in separately and be detached from the abutting walls. This is hardly feasible in the case of a tower abutting upon an arcade, as it would necessitate a straight joint between the tower pier and the respond of the arcade, otherwise the detachment of the foundation would appear to be of little use. The advisability of employing a reinforced concrete raft might be urged as an alternative.

The diagrams showing the depth of concrete necessary in foundations seem to err, from a practical point of view, somewhat on the side of economy. The depths given are as follows:—

For a wall of	1	brick	in thickness,	$7\frac{1}{2}$	inches
,, ,,	$1\frac{1}{2}$	bricks	,, ,,	$11\frac{1}{4}$	,,
,, ,,	2	,,	,, ,,	15	,,
,, ,,	$2\frac{1}{2}$	,,	,, ,,	$18\frac{3}{4}$	,,

It is not stated whether these dimensions are intended for cement or lime concrete.

Theoretically the thicknesses given may be sufficient, provided that the subsoil is absolutely homogeneous and of uniform texture, but in practice it is doubtful whether it is wise to allow anything less than 18 inches in thickness for walls of more than one story.

In the chapter on walls, piers, and arches, Professor Pite draws attention to the failure of many piers in mediæval buildings formed of clusters of columns grouped around a central shaft or cylinder of masonry, owing to the central pier being built of several courses of stone and the surrounding shafts having few horizontal joints. Precisely similar conditions exist in modern composite structures, in which steel stanchions are used in conjunction with brick or stone walls, and allowance should be made in their construction to guard against failure due to unequal settlements. The difficulties in connection with the construction of hollow walls are dealt with in a thorough manner, but, in this connection, the advisability of employing iron ties in a building intended to be of any permanence may be doubted. Galvanising, or other protection, is only a temporary expedient, which will in course of time disappear, with the result that the iron will rust and cause disintegration in the wall. A further point of importance, often overlooked, is that the cavity should not be stopped short of door and window openings. The simplest and most effective method is to run the cavity out at the jambs of openings and close it up with tiles or slates in cement before fixing the frames and linings.

Many architects will probably disagree with Professor Pite as to the necessity for keeping "perpends" in brick facings. Provided the bond is properly observed, an exactly true line in the vertical joints would not appear to be essential, and a slight irregularity in this respect gives a variety and texture to the work which is pleasing to the eye.

In the section on stonework, Mr. Baggallay deals fully with the various classes of material, the methods of conversion, and the different tools employed for the purpose, and the construction of walls, arches, vaults, &c.

The "Report with reference to the selection of stone for building the New Houses of Parliament," still perhaps the best work on the subject, has been drawn on in some measure for the classification and description of the different varieties of native building stones.

The diagrams in this section, as well as in that on brickwork, are exceptionally good, and well explain the points referring to them in the letterpress.

One could have wished that Mr. Baggallay had expressed himself a little more strongly against the pernicious practice of pointing masonry with a projecting joint, a treatment which is one of the most fruitful causes of decay in stonework. The mortar should never be allowed to project beyond the face of the stones, and is better kept back a little behind it. Some of the elementary principles connected with masonry, which one would have expected to be dealt with in a book for students, do not seem to have been touched upon; such, for example, as

the necessity for mitres and stops being worked on the solid, the jointing of mullions in short lengths to avoid a similar trouble to that mentioned by Professor Pite in connection with clustered columns, and the advisability of not jointing sills under mullions.

These are matters which may, perhaps, be considered architectural commonplaces, but many a modern building is marred by the non-observance of such details.

Mr. Searles-Wood's essay on Carpentry is somewhat disappointing in that it leaves the reader unsatisfied and wishing for more. Some further examples of roofs might well have been given, and an historical review of the development of roof construction would have been interesting. Possibly, however, such a treatment was considered outside the scope of this work.

The final section of the book, dealing with construction in metals, stresses and strains, &c., is contributed by Mr. E. Sprague. It contains numerous calculations and formulæ, the merits of which the average architect will, doubtless, while acknowledging their usefulness, be content to leave to the judgment of the engineer.

Altogether the collaborators are to be congratulated on the manner in which they have succeeded in presenting old friends in new dresses, but it is to be regretted that the price of the work makes it beyond the means of the majority of students, for whom it is evidently designed. If it had been found possible to produce it at about one-third of the cost its usefulness would have been increased threefold. HERBERT PASSMORE [*A.*].

THE SCIENCE OF ART.

The Beautiful Necessity. Seven Essays on Theosophy and Architecture. By Claude Bragdon. Rochester, N.Y. The Manas Press, 1910. *Price* 10*s. net.* [*B. T. Batsford,* 94 *High Holborn, W.C.*]

To a Britisher there is a certain freshness in the American frame of mind. It is persistently active. It accepts nothing without inquiry, and after inquiry it asserts all the ancient faiths or fallacies that it has discovered just as though they were original thoughts. This rejuvenating process is of value to the old country as well as to the new, just as the observations of the growing intellect of a child are stimulating to the jaded minds of its elders. In the field of architecture it is of especial value for two reasons, the first because the architect who lives in the Old World is so thoroughly accustomed to the time-honoured masterpieces which surround him that the lessons which they teach have lost for him something of their original meaning; and the second because the American architect takes himself so seriously in his study of those masterpieces that he is well qualified to enforce their significance.

Mr. Claude Bragdon revives interest in the parallel that has been drawn between music and architecture as exemplified in the great works of both arts. After explaining the theosophic view of art, he writes: "Music, which is in time alone, without any relation to space, and architecture, which is in space alone, without any relation to time, are thus seen to stand at opposite ends of the art spectrum, and to be, in a sense, the only 'pure' arts, because in all the others the elements of both time and space enter in varying proportions, either actually or by implication." . . . "In another sense music and architecture are allied. They alone of all the arts are purely creative, since in them is presented, not a likeness of some known idea, but *a thing-in-itself* brought to a distinct and complete expression of its nature." . . . "The characteristic differences between music and architecture are the same as those which subsist between time and space. Now time and space are such abstract ideas that they can be best understood through their corresponding correlatives in the natural world, for it is a fundamental theosophic tenet that nature everywhere abounds in such correspondences; that nature, in its myriad forms, is indeed the concrete presentment of abstract unities," and so on.

He proceeds to consider the history of the architecture of the civilised world as it appears from the standpoint that he has taken up. Egyptian pyramids, Greek temples, Roman amphitheatres, Gothic cathedrals, and Renaissance palaces are passed in review to illustrate the idea of reincarnation, and just a glimpse is shown of a possible future course of architectural development.

The greater part of his book, however, is devoted to the difficult task of systematising the natural laws of beauty. That there are laws of nature which are also the laws of art will be generally admitted by architects. There is something that controls a designer, although it may evade his comprehension. An architect sometimes feels that the solids and voids, the lines and surfaces of his buildings are in some degree influenced by an abiding power that has guided others and still will guide. In some measure, the measure perhaps of their excellence, they follow certain rules of shape, proportion, composition and the like, which seem to be generally applicable, irrespective of style, period, or locality, and to embrace within their scope not only architecture but all forms of human expression. But although the laws of beauty are thus recognised most people are content to accept the fact of their existence without inquiry and to leave them undisputed yet undefined. Not so Mr. Bragdon. He has squarely faced the problem of their formulation and has expressed himself in excellent English, although he has used rather a lot of hard words.

He has not been afraid to summarise his conclusions: "First comes the law of *Unity*; then, since every unit is, in its essence, twofold, there is the law of *Polarity*; but this duality is not static, but dynamic, the two parts acting and reacting upon one another to produce a third, hence the

law of *Trinity*. Given this third term, and the innumerable combinations made possible by its relations to and reaction upon the original pair, the law of *Multiplicity in Unity* naturally follows, as does the law of *Consonance*, or repetition, since the primal process of differentiation tends to repeat itself, and the original combination to reappear, but to reappear in changed form, hence the law of *Diversity in Monotony*. The law of *Balance* is seen to be but a modification of the law of Polarity, and since all things are waxing and waning, there is the law whereby they wax and wane, that of *Rhythmic Change*. *Radiation* rediscovers and re-affirms, even in the utmost complexity, that essential and fundamental unity from which complexity was wrought."

It will not be fair to give this quotation without adding that the little volume is not in any way like a forbidding book of rules. The whole trend of thought that it contains is very interesting, and it is presented in an engaging manner.

An essay on the proportions of the human figure in which the principles of natural beauty are illustrated, two on the geometry and arithmetic of beauty, and another headed "Frozen Music," complete the book. It would be pleasant to trace each essay in detail, and to enter into the various matters for argument that the book contains, but that course would be too great an adventure to attempt within the limits of a review.

The illustrations are good. Each consists of a few simple lines which give all that the author seems to have needed and no more. They are witnesses in support of his statements in the letterpress. Natural objects and buildings of unquestionable merit are examined to prove that they have obeyed the laws, and their evidence is most convincing; but it must be remembered that it is the laws, not the subjects, that are on trial. It is the truth of those laws that the book has sought to emphasise. The reader of the book may undertake a cross-examination. He may turn to his favourites among the masterpieces of art and test them by an application of the principles that are elucidated in the book. He might even refer to his own work—to the best thing that he has done so far—and see whether ("like the bird and the bee") he "has followed the rules without knowing them." Such an exercise will be instructive, and its result may be to point out causes of failure in some cases; but after the reader's curiosity is satisfied he should forget the book and its teachings before he starts upon a new composition, for although a comprehension of the natural laws of beauty is of use in the critical analysis of a design that has been achieved, it is a positive hindrance to the solution of the complementary problem of synthesis. After all manner of study, the creation of a work of art may well be approached by an artist in the virginal manner.

The volume is published in America, but copies may be obtained from Mr. Batsford.

J. Nixon Horsfield [*A.*].

REINFORCED CONCRETE.

Lectures on Reinforced Concrete: Delivered at the Institution of Civil Engineers in November 1910. *By William Dunn, Consulting Engineer for Reinforced Concrete Construction to His Majesty's Office of Works, F.R.I.B.A., Assoc.Inst.C.E.* 8vo. *Lond.* 1911. *Price* 7*s.* 6*d. net. Diagrams in portfolio separate,* 5*s.* [*Hodder & Stoughton, Warwick Square, E.C.*]

This book, published by the University of London Press, consists of a series of lectures on reinforced concrete, and is of such a nature as to serve as a useful introduction to anyone beginning the study of the subject, as well as containing much information valuable to those who already have some knowledge of the methods of calculation and construction usually employed in reinforced concrete.

As pointed out by the author, the subject cannot be dealt with exhaustively in such a short space, but he has succeeded in covering a great deal of the ground without being unduly brief. While an advocate of reinforced concrete properly applied, the author does not exaggerate its possibilities, and at the same time calls attention to the necessity that architects, engineers, and others concerned with building work, should arouse themselves to the study and application of this material.

Some methods of calculation for columns and beams are given, with many hints useful to anyone desirous of compiling tables and diagrams to facilitate calculations. Examples of those tables are given in the text, and a most useful set of diagrams for the solution of T beams are also added in the form of an appendix. No general formulæ for the solution of beams are given, the calculations being confined to the case where fixed working stresses in the steel and concrete are maintained. This limits the applicability of the tables and may be somewhat misleading to those unaccustomed to deal with such calculations, as in practice it is not always possible to work to the theoretically correct ratio of reinforcement necessitated by this method.

The chapter on retaining walls is especially good, dealing briefly with earth thrusts and the method of designing reinforced concrete walls to meet these thrusts, and pointing out the economy which can often be effected by using this type of wall when contrasted with the mass type more usually employed.

There are excellent chapters dealing with quantities, costs and failures, clearly set out and valuable to all concerned with the design or erection of reinforced concrete structures. A simple graphical solution for continuous beams is given in an Appendix which enables the bending moment for any condition of loading to be determined easily, and is very suitable for dealing with continuous beams subject to variation in loading.

The use of reinforced concrete for bridges is dealt with briefly, without entering into the calculations for arches and other forms, but many useful diagrams are given and the advantages of reinforced

concrete as a material for this purpose clearly put forward.

The book throughout is well illustrated and got up, and is a useful addition to the existing literature on the subject. Many important practical points are touched on, which points deserve a lot of attention and necessitate the close reading the book merits.

J. Gibson Fleming (Capt. R.E.)

THE LATE JOHN DOUGLAS.

By the death of John Douglas, of Chester, the architectural profession has lost one of its most gifted members. Endowed with the great natural gift of inventive or imaginative power of design, it is fortunate that his early professional education began in an atmosphere where gifts were fostered and directed into the higher sphere of ambition, while the mind was cultivated to receive the best impressions. He thus commenced his creative career in the knowledge of the true functions of architecture and those essential qualities which distinguish good design from bad. His personal friends alone know his real worth, for modesty—which is said to be the quality of genius—occupied a prominent position in his nature.

He was a Cheshire man by birth, but his early training was obtained in the office of Sharpe and Paley, of Lancaster, then noted practitioners in the North of England. Leaving that office he went to Chester, where he practised for fifty-six years. His death took place on 23rd May, at his residence "Walmoor Hill," Dee Banks, Chester, in his eighty-second year.

The architecture of Mr. Douglas is not confined to any particular district or class of work. On the contrary, his buildings are to be seen from St. Andrews in Scotland to Surrey in the South, and their variety of purpose covers an equally wide range. Churches, mansions, grammar schools, banks, farmhouses, park lodges, cottages, memorials, and the half-timber houses of city streets, all seemed to respond to his pencil with equal originality and freshness—proving great artistic creative instinct—and all bearing the impress of his individuality.

In the city of Chester the work of Mr. Douglas is seen in such profusion, and is of such a high character, that the education of the public in Architecture has received a definite impetus, and its effect on the progress and condition of contemporary Art shows itself repeatedly when questions affecting buildings in and about the city are under consideration. Long may this influence continue!

It is unnecessary to attempt a complete list of his works, but the following will give an idea of its comprehensiveness and character. His titled patrons were many, and when he was a young untried architect, with fame still to be won, he received much encouragement by commissions from the late Lord Delamere. "Abbeystead," the stone house which he built for the late Lord Sefton at Wyresdale, near Lancaster, is well known to architects as a charming example of his work. At Croxteth Park, Liverpool, kennels were built for the present Lord Sefton. But it was the late Duke of Westminster who gave Mr. Douglas such exceptional opportunities of showing his skill in the complex art of Architecture. His Grace, himself a great lover of the characteristic style of the architecture of Cheshire—the black and white half-timber work—found in Mr. Douglas a man of the same taste, and as a result the Eaton estate is studded with beautiful erections comprising farmhouses, the "Weighing Machine" Lodge, the Eccleston Lodge, "The Paddocks," Eccleston (the residence of the Hon. C. T. Parker, the Duke's agent), Colonel Lloyd's house, and the Eccleston Hill Lodge. This latter deserves a special word. It is a stately arched lodge spanning the drive, altogether an exceptionally fine piece of work and one of the architect's best accomplishments. For the late Duke, Mr. Douglas also designed several beautiful churches, including Aldford and Pulford churches on the Eaton estate, and Halkyn church on the Flintshire estate.

For other clients must be mentioned that dignified and noble church standing on the hillside at Barmouth—by many considered to be the finest modern church in North Wales; the beautiful little Memorial Church at Deganwy for Lady Augusta Mostyn, so fitting into its position as to have a double beauty; a Memorial Church and Vicarage at Bryn-y-maen on the highlands above Colwyn Bay; and the larger town church in the centre of Colwyn Bay. To this latter church a pathetic interest is attached. The nave was built several years ago, and the last professional work in which the veteran architect interested himself was the tower, still in course of erection, which he longed to see finished. The Church of St. Ethelwold's, Shotton, initiated and munificently supported by the late Mr. W. E. Gladstone, is an example of his early work, while the new aisle of St. John's, Chester, with the restored porch after the downfall of the great tower, are often cited by archæologists as a satisfactory solution of a difficult problem, viz. that of adding new work to a church where the lower arcading of the nave is Norman, the triforium "Transitional"—except the last bay which is "Early English"—while the clerestory is a later specimen of "Early English."

The firm of Douglas and Minshull designed that splendid monument in the village of Hawarden, the Gladstone Memorial Library—in which is housed the great statesman's collection of books—with the hostel adjoining. This collegiate-like building was part of the National Memorial to the British statesman and was visited and praised by the late King Edward. The Golden Jubilee Porch at the front entrance to Hawarden Castle is the work of the firm, also the conical-roofed strong room (in which were stored Mr. Gladstone's mass of historic correspondence and documents until transferred

to the Memorial Library), the fine church of St. Matthew's, Buckley, while their latest work at Hawarden is a house for Miss Helen Gladstone, called "Sundial." The *Chester Chronicle*, when paying a high tribute to the deceased, said: "In the city of Chester, if Mr. Douglas's monument would be sought, one might truly say, 'Look around.' No man in modern times has done so much to add to the beauty of the old city's ancient streets and houses." From a strictly architectural standpoint it would be difficult to imagine a more picturesque treatment of business premises in an old city than the bank and shops in St. Werburgh Street, with their picturesque grouping, finely proportioned features, and delightful oak detail, making an effect at once attractive to the passer-by (be he layman or artist), and, while complete in themselves, gaining by their sympathy with the feeling of the Cathedral beyond and producing a street effect which any city might envy. Other work in Chester includes the Grosvenor Club and North and South Wales Bank in moulded brickwork, which reminds one of his Belgium studies, the County Constabulary, Grosvenor Park Baptist Chapel, and all the houses as far as the park gates, the Prudential Assurance Company's offices, and line of houses in Bath Street —a particularly happy instance of irregular grouping, which will be further enhanced by the mellowing influences of time and weather—and the terminal block to the Northgate Rows.

He designed Barrowmore Hall, a fine brick residence, for the late Mr. H. Lyle Smith, the very superior schools, picturesque bridge and many groups of cottages in the model village of Port Sunlight for Mr. W. H. Lever, also work at Mr. Lever's own house at Thornton Hough. At his native place, Sandiway, he owned considerable inherited property, and for the new church there, which he designed, he gave the site and defrayed the cost of the chancel. Lastly, we should like to mention the house which he designed for himself a few years ago, "Walmoor Hill," a beautiful castellated stone mansion on the banks of the River Dee at Chester, in which is realised some of his inner feeling towards the Art he loved and carried out with honesty, singleness of purpose, and faithfulness to an ideal.

Mr. Douglas began practice in Chester by himself. His first partner was Mr. D. P. Fordham, who died in 1899. His next partner was Mr. C. H. Minshull, who has shared the well-merited distinction of the firm's work for a number of years past, and who, in conjunction with Mr. E. J. Muspratt, will continue to carry on the business at Abbey Square, Chester.

To one who has known Mr. Douglas and his work for nearly thirty years, it may be permissible to say he was a true architect, a hero in his work, a cultured gentleman, counting no personal sacrifice, looking for no reward save the honour of his Art and the uplifting of his country.

G. A. Humphreys [*F.*].

Llandudno, 20th June 1911.

THE PLAN OF THE FIRST CATHEDRAL CHURCH OF LINCOLN.

Appended is an abstract of a Paper on this subject read by Mr. John Bilson, F.S.A. [*F.*], before the Society of Antiquaries on the 25th May:—

The builder of the church was Bishop Remi, the almoner of Fécamp, who was the first of the Norman ecclesiastics to receive a bishopric in the conquered country. The historical evidence indicates that the church was begun about 1073, and it was finished (except the upper part of its west front) in 1092. It is evident that any exact knowledge of the architecture of the church must be the more valuable because it was one of the earliest churches built in England by the Norman conquerors, and because it was built quickly within these twenty years. The recovery of its plan is also important for another reason; the knowledge of what already existed must necessarily throw some light on the precise manner in which the present church was built, and so facilitate the solution of the difficult problems which still remain to be unravelled with regard to the history of the works of St. Hugh and his immediate successors.

Before the recent excavations, the only traces of Bishop Remi's church known with certainty were (with the exception of the very important original work at the west end) the fragments of the foundations of the choir and its great apse beneath the choir stalls, and the foundations of the north-west angle of the north transept found in 1903. The excavations kindly authorised by the Dean and Chapter, and carried out at their expense, were begun during the Lincoln meeting of the Royal Archæological Institute in 1909, under the direction of Mr. W. H. St. John Hope; these resulted in the discovery of the foundations of the east end of the north choir aisle, and of the eastern bays of the wall of the north aisle of the nave. The excavations were continued, under Mr. Bilson's direction, in the earlier months of this year, in the north transept and its eastern aisle, and in the western bays of the nave. The foundations discovered, which were described in detail with the aid of a large-scale plan, have given sufficient fixed points to make it possible to reconstitute the plan of the whole northern half of the church.

The plan consisted of a choir of three bays, terminating eastward in an apse, and flanked by aisles which extended eastward as far as the springing of the great apse; a transept, each arm of which consisted of two bays, one of which was opposite the aisles of the choir and nave, and the other, beyond to the north and south, had an eastern aisle of a single bay; a nave of ten bays in length, with north and south aisles; and two western towers at the ends of the aisles, with the nave extended an additional bay between them. These towers do not appear to have been carried up quite so high as the nave walls, but, below, this western work still remains for the most part, though it has undergone much subsequent alteration. The plan was a remarkably orderly and logical piece of work, and it is due to the fact that it so closely conformed to the Norman "type" that its main lines have been recovered with comparatively little excavation. The internal width of the main spars generally was 28 feet 9 inches; of the choir and aisles about 65 feet; and of the nave and aisles 66 feet 5 inches. The internal length of the transept was 122 feet 9 inches, and the total internal length, from the inside of the west wall, was about 310 feet.

The great apse of the choir was semi-circular, divided into five bays, and the plan of the whole eastern part shows marked analogies with the plans of St. Nicolas, Caen, Cerisy, Lessay, and Saint Georges de Boscherville. The choir was three bays in length, as at Montivilliers, instead of the more usual two. The aisles of the choir were finished square externally, and apsidal internally. It is probable that the choir was separated from the aisles by solid walls, as at Cerisy and St. Albans. The plan of the transept is particularly interesting, for it affords the earliest instance of an aisled transept in the Norman school. The transept aisle stopped short of the end of the transept itself. Each arm of the transept had the characteristically Norman gallery, which here, as at Jumièges and Bayeux, may have extended over the whole area up to the crossing piers on either side. The transept plan shows close analogy with that of Saint Étienne, Caen, and the similarities in small details here and in the nave are so marked as to suggest that Bishop Remi's master-of-the-works must have been employed on the Conqueror's church before he began his work at Lincoln. Some fragments of reused shafts which evidently belonged to the nave piers, and some details of setting-out, seem to indicate that the nave closely followed the type of Saint Étienne, Caen. The external width of the nave itself is indicated on the existing west front by the line of the southern jamb of the northern great lateral recess, and that of the northern jamb of the corresponding southern recess, and the heights of the smaller recesses at either end of this front indicate those of the nave arcades.

The plan of Bishop Remi's church, as worked out from the remains which have been found, is an admirable illustration of the logical precision, clearly defined expression of structure, and feeling for monumental form which characterises the best work of the Norman school. It conforms very closely to the " type " of the contemporary works of the Continental school of Normandy, much more closely than do most of the great churches built in England after the Norman Conquest. It shows some indications, though as yet but slight, of the great expansion of scale which is illustrated in the nearly contemporary church of Winchester. And its western work stands almost alone as a magnificently original piece of monumental building, a speaking witness of the powerful architectural expression of a masterful race.

In the discussion which followed the Paper, the President expressed the Society's appreciation of the action of the Dean and Chapter of Lincoln in allowing the excavations to be undertaken, and in so generously defraying the cost.

Messrs. J. & A. Churchill have in preparation a book of reference containing the names, appointments, and achievements of the world's foremost scientists. It will be called *Who's Who in Science*, and will appear annually, edited by Mr. H. H. Stephenson. Schedules are now being addressed to the scientists whose names may appear, and they are asked to assist the publication by filling in and returning the forms to 7 Great Marlborough Street, London, W., as soon as possible. For enabling scientists to communicate with each other all the world over, and for giving a rapid summary of the achievements and careers of great men, the new annual should soon prove itself indispensable.

9 Conduit Street, London, W., 30*th June* 1911.

CHRONICLE.

The Institute Coronation Address and Decorations.

Inset between pp. 592 and 593 of this issue is a photographic reproduction, to a reduced scale, of the Address to the King presented by the Royal Institute on the occasion of His Majesty's Coronation. The writing and illuminating in gold and colours were designed and executed by Mr. Graily Hewitt, assisted by Mr. L. Macdonald Gill, of Lincoln's Inn. The document is bound in a handsome case of Nigerian morocco leather, of a warm russet colour, bearing on its front, stamped in gold, the inscription " The Address of the Royal Institute of British Architects to His Majesty the King."

The Coronation decorations of the Institute premises were kindly designed by the Hon. Secretary of the Institute, Mr. Henry T. Hare. The upper stories were hung with red velvet-brocaded cloth intertwined with swags of laurel; the lower with blue velveteen, and cloth-of-gold bearing the letters " G.V.R." embroidered in blue velvet. Swags of laurel swung across the building from window to window, and surmounting all was a large jewelled crown in bold relief. The seal of the Institute and gilt rosettes repeated at intervals were utilised in the composition of the scheme.

Coronation Honours for Members of the Institute.

The President, at the General Meeting last Monday, took advantage of the occasion to offer the congratulations of the Institute to two of its Royal Gold Medallists, both members of the Institute, who within the last few days had received the distinction of knighthood at the hands of His Majesty. He referred to Sir Ernest George, A.R.A., who received the Royal Medal in 1896, and Sir Arthur John Evans, D.Litt., F.R.S., its recipient in 1909. The former, remarked the President, was a very old friend of theirs who had only recently vacated the Presidential Chair, and he was sure they would all wish him many long and happy years in which to enjoy the honour which had been conferred upon him. Sir Arthur Evans, their Honorary Associate, was perhaps not so well

known to them personally, but the work he had done was, and was very greatly appreciated by them all; he was sure Dr. Evans would receive their warmest congratulations upon the distinction which had been accorded him.

The cordial congratulations of the Institute will also be extended to two other members of the Institute who have received Coronation honours, viz. Sir Henry Tanner, I.S.O. [*F.*], upon whom has been conferred a Companionship of the Bath, and Mr. W. H. Lever, recently elected Hon. Associate, who has been created a Baronet.

ST. PAUL'S BRIDGE.

The following letter from the President appeared in *The Times* of the 20th June :

9 *Conduit Street, Hanover Square, W.*, 19*th June.*

SIR,—The news of the re-committal of the St. Paul's Bridge Bill by the House of Commons has been received with the utmost satisfaction by those who care for the beauty and dignity of London, and the Royal Institute of British Architects, which felt it to be its duty to take public action by pressing for the reconsideration of the Corporation's proposals, has to acknowledge with the warmest gratitude the powerful and consistent support which its attitude has received from *The Times* and from the Press generally.

In the debate of the House of Commons reported in your issue of June 15, some surprise was expressed by members that the Royal Institute of British Architects was not represented before the Committee. The Institute was advised that it would be useless to appear except by counsel, the cost of which was estimated at several hundred pounds. The Council of the Royal Institute did not feel justified in incurring such an expenditure.

I am, Sir, yours truly,

LEONARD STOKES, President R.I.B.A.

Some Suggested Modifications of the Corporation's Scheme.

In the last number of the JOURNAL mention was made of an alternative scheme for the proposed St. Paul's Bridge prepared by Mr. W. Henry White [*F.*], of which some particulars had appeared in *The Times* of the 13th June. Mr. White has kindly sent the plans for publication, together with the following explanatory notes :—

PLAN "A."

The reason for a new bridge over the Thames being essentially a consequence of the great increase in traffic, it follows as a matter of course that its approaches from both banks of the river should be in the best positions for linking up the existing main arteries at such points as will best facilitate and prevent the congestion of the said traffic.

A reference to the plan prepared by the Bridge House Estates Committee will show that these considerations have on the whole been well studied so far as the position of the proposed bridge and the new thoroughfare on the Surrey side of the river leading to the existing centre at the junction of Great Guildford Street and Southwark Street is concerned. On the Middlesex side, however, the new main artery proposed by the Committee seems to have been laid out with a too utilitarian motive, and the Committee appear to have been largely influenced, if not entirely so, by the question of cost; and by so doing, if their scheme is sanctioned by Parliament and carried into execution, this economical effort will be found in practice to have largely frustrated the very object of its *raison d'être*, as the traffic would debouch into the south-east corner of the Churchyard and there meet the double flowing stream of traffic through the Churchyard from east to west and west to east. And as this position also receives the northern-going traffic further congestion is bound to result.

Future generations might well have cause to complain of our want of foresight if, when such a great undertaking is being considered, the mistake is made, owing to a false idea of economy, of not securing the very best improvement.

The suggestion made on this plan shows that while practically maintaining the Committee's scheme from Queen Victoria Street southwards, modifications of the northern portion on the lines herein suggested would provide for present and future needs and improvements as time and opportunity permitted.

It will be noted on examining the plan that, if the whole scheme could be carried out, the facilities for coping with the traffic would be vastly improved, as the eastward and westward going streams would be diverted into their proper channels, thus avoiding the congestion which would be the natural result of the carrying out of the Committee's scheme.

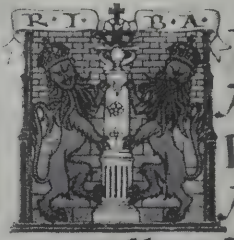
The opportunity thus presented for opening up a vista to the south front of St. Paul's as the natural and logical development of this scheme should be also apparent, and is so obviously desirable in the best interests of the City that, if not in the immediate future, it would be insisted upon by the public when the construction of the new road has been accomplished.

It will be seen, moreover, that if the cost of carrying out the complete scheme is prohibitive for the time being, if this suggestion were adopted the new road proposed by the Committee, only slightly modified as herein indicated, would not materially add to the cost of the Committee's scheme, and the vista to St. Paul's, the widening of the Churchyard on the south, and the formation of a western arm of the proposed new road could be left for future development.

The embryonic idea contained in this plan is made with the full knowledge that in its details much further thought and consideration would be necessary, but it is hoped that the Committee will at least give it some attention before it is too late.

PLAN "B."

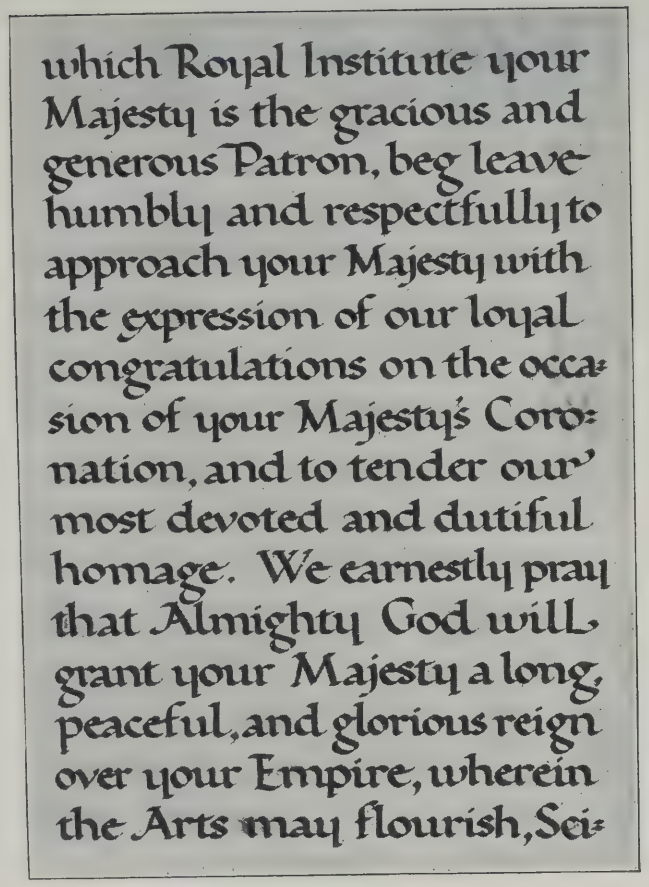
If the scheme shown upon Plan "A" is considered to affect too large an area of property, Plan "B" shows a modification by which, whilst adopting the Y-shaped road as the main principle on account of the traffic requirements, and bringing the Corporation's road by means of an easy curve slightly further westward than shown upon Plan "A," it will be seen that a fine open space or "Place" would be formed immediately opposite the south porch of St. Paul's, thus opening up a wide vista of the Cathedral, which would be more effective than could be obtained by means of a straight road joining the Churchyard at right angles.

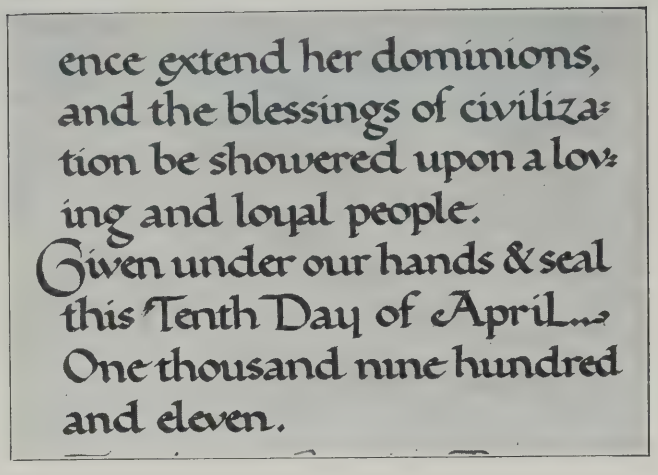


The humble & loyal Address of the Royal Institute of British Architects to His most excellent Majesty the King.

May it please your Majesty,—

We your dutiful subjects the President and Council, on behalf of the Royal Institute of British Architects and of the Architectural Societies both in the United Kingdom and in the British Dominions beyond the Seas in alliance therewith, of

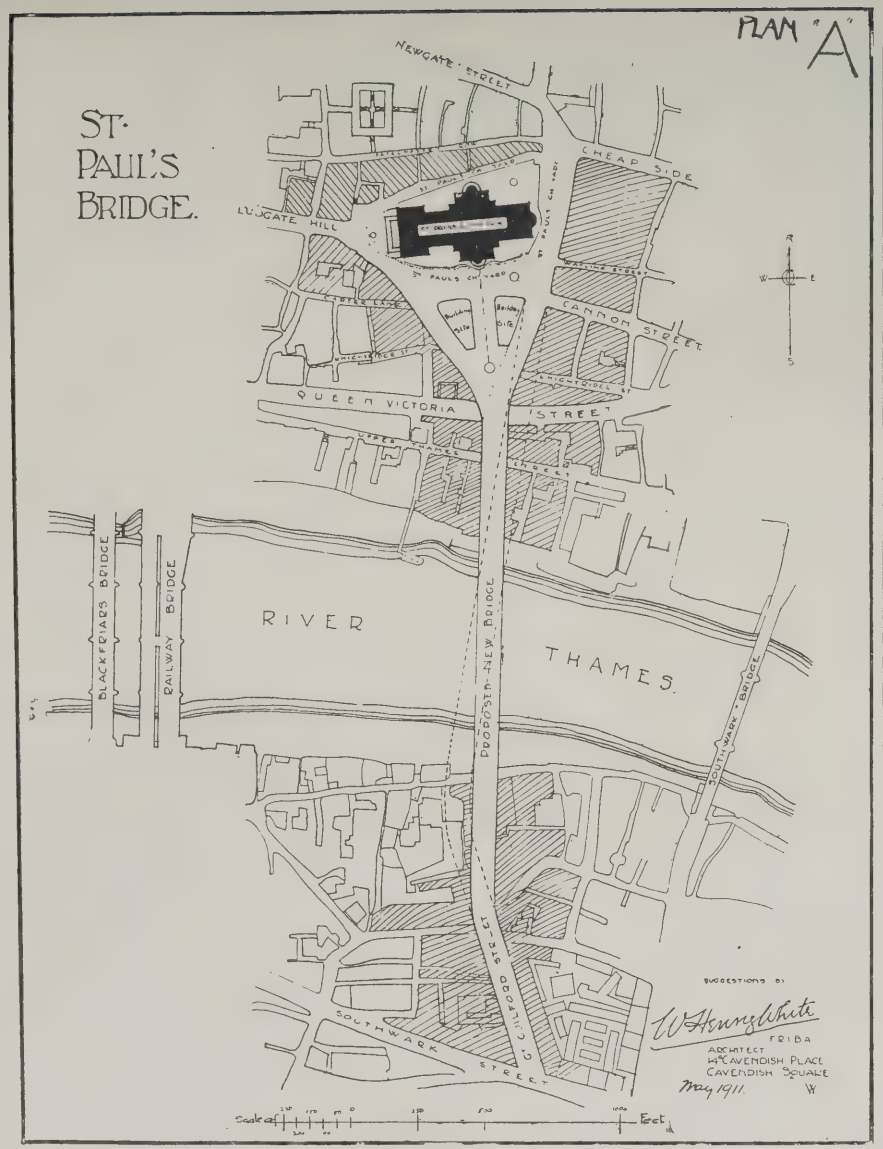


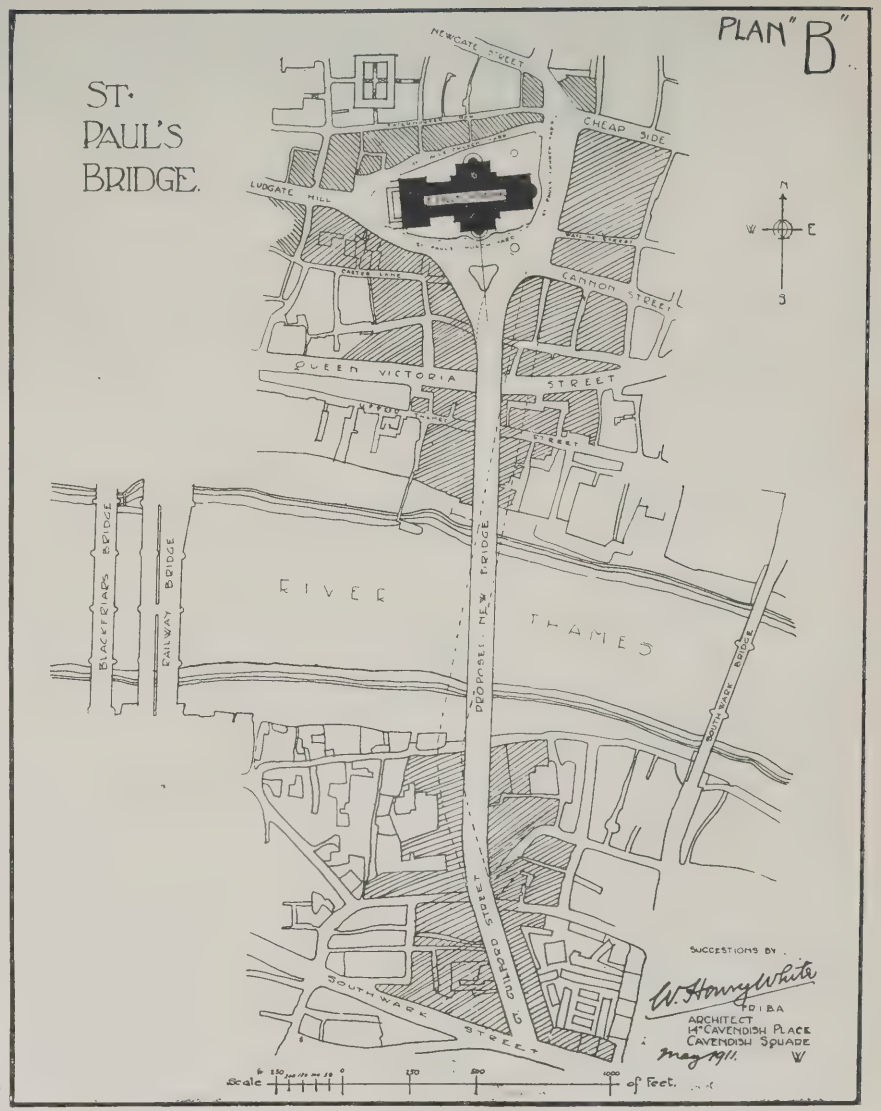


[*Here are subscribed the signatures of the President, Vice-Presidents, Hon. Secretary, and Secretary, with the Institute seal at foot, and on following pages the signatures of members of the various sections of the Council.*]

EXPLANATION.—On the top left-hand page is displayed the Royal Standard. Before it the Imperial Crown is poised, ready for His Head, whose title and authority are declared upon the scrolls about it. Above rise the towers of Westminster Abbey, England's witness, supporting a golden shrine, within which hovers, for symbol of the Source of all sovereignty, as also its burden, the Crown of Thorns. The Standard is borne upon two shepherd's crooks, betokening the people's immemorial need, and budded with the National Emblems, the flowers growing from the staves, each upon a brother's stalk, every two twining heart-wise behind the shield of the third's Saint and Patron—in mutual service, reliance, and affection.

GOD SAVE THE KING.





ST. PAUL'S BRIDGE: SUGGESTIONS BY MR. W. HENRY WHITE [*F.*]

The dotted lines on the plans indicate the new road as proposed by the Bridge House Estates Committee.

Plan " B " also admits of the scheme being developed in sections, adopting as closely as possible the Corporation's road as a commencement of the improvement and leaving the remainder for future development as opportunity or the necessities of traffic demand, and, being a lesser interference with the surrounding properties, it would of course be less costly than Plan " A."

The Times of June 22nd published the following :

From Professor BERESFORD PITE [*F.*],—

The Next Step.

The Corporation of London having loyally accepted the instruction of the House of Commons to submit a scheme for the new bridge and its approaches which in architectural design is best adapted to the character of the site, I venture to point out the great debt of gratitude that is owing to Mr. Philip Morrell for embodying in this instruction the sometimes forgotten truth that architectural art is more than the designing of beautiful fronts or interiors to buildings, and comprehends the arrangement of the buildings themselves, both to one another and to their situation and spacing.

Wren's greatest work was the town planning of London with a Cathedral at its heart : but, despite Mr. Samuel Pepys or Mr. John Evelyn's presence, in the absence of Mr. John Burns, to see this town planning scheme through the Local Government Board, it was blocked and defeated. This greater task of the town planning of St. Paul's has now become the duty of the Corporation by the instruction of Parliament. It may be wonderful, but it is so. With this delightful responsibility has come the additional possibility, denied even to Wren's dreams, of the magnificence of approach attainable by a grand causeway across the river.

The problem is one of great magnitude and will require ample time for development and discussion, though meanwhile steps may be taken to carry out the design and rebuilding of Southwark Bridge, and allow for the liberation of the Bridge House Estate funds for a somewhat larger expenditure.

But as the City have shown no lack either of financial resource or of a drastic courage in the preparation of their first plan, we may expect a handsome solution of their present task. The rejected scheme proposed to purchase and eliminate practically the whole of the eastern side of St. Paul's Churchyard, and, with a traffic courage much to be wondered at, introduced a new stream of north and south traffic upon the top of Cheapside. We may therefore have confidence that a considered largeness of view will not be wanting now in redesigning the surroundings of St. Paul's, and in preparing for a dignified " lay-out " of the Churchyard buildings, as well as in bringing the Dome into architectural relation with the approach from the bridge. I venture the suggestion that, owing to the general importance of the subject and the many interests involved, as much guidance as practicable may be offered by the Corporation to Parliament upon two as yet unsettled parts of the problem. First, as to the architectural character of the new bridge itself (a necessary corollary of the instruction). The design of the bridge should now be defined, as decision must be made sooner or later whether it is to be of stone like the Cathedral, or London and Waterloo Bridges, or of metal like those at Southwark and Charing Cross. Secondly, whether or not the tramway upon the bridge is sufficiently provided for as to width and has been fully planned and worked out. At present this also is not in the Bill.

The subject is one of absorbing public interest, and though I am not in a position to add a word on behalf of the Royal Institute of British Architects, I may express the conviction that if requested by the Corporation the Council of the Institute would at once nominate an honorary commission of architects to confer with them upon this matter of national importance.

The public spirit shown by such a distinguished architect as Mr. Norman Shaw in placing his services freely at the disposal of the County Council or the Government on more than one occasion is a precedent that many of his colleagues would feel it an honour to follow. It may not be inappropriate to add that Michael Angelo completed St. Peter's, declining all proffered remuneration, and that Christopher Wren was deprived of any salary or pay long before he saw the completion of his incomparable masterpiece.

From Mr. EDWIN T. HALL [*F.*],—

Architects and the Committee.

In the debate in the House several members suggested that the expense to the Royal Institute of opposing a Bill was a bagatelle, and also spoke of its *locus standi*.

Leaving the St. Paul's controversy entirely out of the question, the following facts may be of interest :—

In 1909 the Royal Institute petitioned against a Bill and appeared before a private Committee of the Commons.

Their costs amounted to over £500, notwithstanding the fact that I (as the then senior Vice-President) and my colleagues, who conducted the opposition and gave evidence on behalf of the Institute, gave our services gratuitously—services which occupied us for weeks.

In 1905 the Institute also opposed a Bill, and their costs under similar conditions came to nearly £800.

On that occasion the Institute representatives spent many weeks of gratuitous service in the interest of the public.

On the question of the *locus standi* of the Institute, this has long been recognised by Parliament, not on the narrow and technical ground governing ordinary opponents—namely, that they shall have some personal interest in the scheme before Parliament—but on the much higher ground that the Royal Institute have no interest whatever to serve excepting that of placing their technical knowledge and experience at the service of the public.

I had the honour of representing the Institute before a Committee of the House in 1890, and since that date the Institute have, on several occasions, petitioned on behalf of and been heard in the interest of the public in respect of Bills appertaining to architecture and building.

In every case the representatives of the Institute appeared before Parliament and gave their services gratuitously.

The advantage to the community of having at its disposal the technical advice and experience of a body of experts is admitted on all hands, and it has been the practice of the Government Departments, as well as of many municipal bodies, to avail themselves of this advice and experience ; but the public would hardly expect that, in addition to giving these services for nothing, architects in their corporate capacity should regularly contribute large sums of money to the same public interests.

Second Report of the Joint Committee on Reinforced Concrete.

The Joint Committee on Reinforced Concrete have now completed their Second Report, and it will be on sale at the Institute in the course of a few days.

In an introductory note the Committee state that since the issue of the First Report in 1907 the use and knowledge of Reinforced Concrete for Architectural and Engineering Constructions have steadily increased. It therefore appeared desirable that it should be reconsidered in the light of further experience, and this Second Report is the result of the Committee's labours. The section on Materials has been modified in certain details. The section on Methods of Calculation has been recast in form, and the standard notation (proposed by the International Association for Testing Materials and modified by the Concrete Institute) has been adopted. The sub-section on Columns has been revised and the formulæ proposed have been recast, so as to include the cases in which the lateral or helical binding is a material factor in the strength. The suggestions which have been made from time to time by institutions and individuals have been of much value and have been fully considered.

Professor Unwin, F.R.S., Captain J. Gibson Fleming, R.E., and Messrs. Wm. Dunn and E. Fiander Etchells contribute Appendices. The size of page has been reduced for convenience of handling, and the work will be issued in stiff covers at the price of One Shilling.

Existing Portraits of Inigo Jones.

Mr. Herbert Batsford writes: "In reply to Mr. Humphreys' inquiry in a recent number of the JOURNAL, as to existing portraits of Inigo Jones, he should refer to the engraved portraits of Inigo Jones in the Print Room at the British Museum, where they are collected together, and they include some at various dates of Inigo Jones' life, and an extraordinary one the accuracy of which is doubted. I think that every known portrait has been engraved; of course the chief one is by Van Dyck. Certain information as to the actual paintings of portraits can be found in the Architectural Publication Society's Dictionary under the article 'Inigo Jones.' I believe that Van Dyck's original painting appears in the Barber-Surgeon's Wardroom."

Mr. R. F. CHISHOLM, F.S.A. [*F.*] has been awarded the Silver Medal of the Society of Arts for his Paper on "The Taj Mahal" read before the Society during the past session.

M. AUGUSTIN REY, A.D.G., of Paris, widely known for his valuable contributions to the transactions of international congresses on hygienic, æsthetic, and sociological subjects, is highly esteemed by his French *confrères* for his architectural achievements, and has just been awarded the "Grande Médaille de l'Architecture privée," a much prized distinction annually granted by the Société Centrale des Architectes Français.

Relics of a Great Temple.

Last winter the British School of Archæology in Egypt was engaged on several sites within fifty miles south of Cairo. The most successful of these excavations was that at Hawara, a site first excavated by Professor Flinders Petrie in 1888, to which he now returned accompanied by Mr. Stopford and Mr. Hayter. The following is cut from a long account of the finds which appeared in *The Times* a few days ago:—

The great site of the Labyrinth again claimed attention. Though much of it had been searched before, the rubbish heaps running up to 24 feet high along the side of the pyramid had never been turned over. There—if anywhere—some remains of the greatest temple of Egypt might yet lie buried. These hopes were not disappointed; a colossal shrine of red granite with two life-size figures of King Amenemhat III. was uncovered; near it were half of another such shrine and parts of a third. Each of the chapels, or small temples, belonging to the nomes of Egypt appears to have had a granite shrine; and though the walls and even the pavements of the buildings have been removed, yet the distances of these immense blocks of about eight tons' weight serve to show the spacing of the buildings.

The sculptured figures of the gods carved in the hardest white limestone lay near these. Three busts of the crocodile god Sebek, one bust of Hathor, a half-length figure of an unknown goddess with palm branches on her head, and parts of a great group 7 feet wide, representing the king seated, with four lake goddesses holding fishes, were found. Unhappily, all the faces of the statues had been broken off. This mutilation was done in early times; and the statues had continued standing in the temple for ages in this disfigured state, as we learn by the remains of the bats upon the palm goddess. These are the oldest historic statues of the gods that are yet known, dating doubtless from the time of Amenemhat III., 3400 B.C., as his name was repeatedly found here on fragments of sculpture, and no trace of later work was to be seen. Scraps of the coloured reliefs of the temple were frequent; the most interesting is a figure of the king kneeling on a sacred boat, and opening the door of a shrine containing a sacred tree. Many pieces of small fluted columns were found, painted red and black, apparently parts of small shrines three or four feet high. A curious trace of the latest attention to the temple was recovered on a weathered block of red granite, which lies on the other side of the pyramid, but could only have come from the temple. After searching it carefully in slanting sunshine the name of a "Queen Cleopatra" was traced; this proves that an added inscription was put up over some doorway as late as between 180 and 30 B.C. The beginning of the destruction of the temple must have been soon after that, as Pliny states that it was "marvellously ravaged."

Perhaps the most attractive results are those from the late cemetery, containing the mummies with painted wax portraits of the Roman age. Twenty-three years ago Professor Petrie worked over part of this cemetery, finding the eleven portraits now in the National Gallery and many others which are scattered in various museums. The surface accumulations had been partly removed since then, and more ground could be searched. Sir Gaston Maspero proposed that the British School should finish the site; and the result is that some thirty portraits in fair state have been found, about half as

many damaged examples, and a couple of dozen hopelessly decayed.

Among the portraits are some which artistically are finer than those already in London. A few names were marked on the mummies; one powerful old lady is named "Demetris, aged 89"; another portrait with a thoughtful and refined expression is named "Hermione Grammatike," a woman teacher of the classics, the oldest remains of any woman professor yet known. It is hoped that she may find rest as the patron genius of one of the women's colleges. A head painted in dry colour-wash on a stucco ground laid upon canvas shows an entirely different kind of work, probably more akin to the earlier Greek school of painting. One mummy had three portraits upon it; the body, duly wrapped up in decorative bandages with a portrait, had been adopted for another person by the unscrupulous undertaker; he took off the portrait (*a*), split up the cedar panel, thrust it under the wrappings, and then rebandaged the mummy with new wrapping, took a disused portrait (*b*), turned it face down, and proceeded to paint on the back of the panel a head (*c*) for the person whose body was sent to be embalmed.

ALLIED SOCIETIES.

The Cape Institute of Architects.—A Meeting was held on the 18th May in the Board-room of the South African Association at Cape Town to consider the advisability of forming a Town Planning and Municipal Improvements Society on the lines laid down by the Town Planning Conference recently held in London, and, if necessary, to appoint a committee which should go into the whole question. Mr. Arthur H. Reid [*F.*], President of the Cape Institute of Architects, was in the Chair, and there were present representatives of the Publicity Association, the National Society, the Society of Artists, and other public bodies.

Mr. Reid, addressing the Meeting, said that it afforded him and the Council much satisfaction to meet the members, because he knew that without their interest and encouragement they would be wasting time in organising any movement for a Town Planning Conference. The science of town planning was essentially an architectural problem, and should take precedence of such engineering features as water supply, sewers, roads, tramways, and artificial light. The first thing to be done, in planning a city, was to secure a *motif*, and then determine the general lines upon which the city and its suburbs should be encouraged to develop. Co-operation with the town engineer was necessary in connection with the making of roads, distribution of water, electric light, &c., but there should not be a surrender to utilitarian requirements to the disregard of architectural and scenic effect. The public on their part must recognise that the future of the city and suburbs did not depend upon the collective efforts of popularly elected bodies alone, but upon the selection of the right men to fill the seats of these assemblies. He urged the appointment of an official to supervise building plans, believing that a one-man control, subject to the authority of a central administration, would be the best arrangement, for art was produced by individuals and not by committees or corporations.

In the course of the discussion which followed Mr. R. R. Brydone said that it would be advisable for the various societies represented to co-operate with the Publicity Association rather than to form a separate little body, which would be too weak to do any real good. They should take the example of America, where every town of any importance had a society which looked after municipal improvements and did the work here undertaken by the Publicity Association.

Dr. Bennie Hewat heartily welcomed the movement and thought the time chosen for its inauguration opportune. Cape Town's future depended to a large extent upon its architectural beauties, and they should strive to make their city as attractive as possible to the pleasure-seeker.

A motion was carried that the Meeting express its thanks to the Institute of Architects for bringing this matter forward, and the Institute was invited to co-operate with the Publicity Association in its efforts to add to the attractions of the Peninsula.

MINUTES. XVI.

At the Sixteenth General Meeting (Ordinary), held Monday, 26th June 1911, at 8.30 p.m.—Mr. Leonard Stokes, *President*, in the Chair; entered in the attendance-book the names of 32 Fellows (including 14 members of the Council), 38 Associates (including 3 members of the Council), 9 Licentiates, 1 Hon. Fellow, 2 Hon. Associates, and numerous visitors—the Minutes of the Meeting held 12th June were taken as read and signed as correct.

The following Members and Licentiates attending for the first time since their election were formally admitted by the President—viz.: John Alan Slater, Joseph Horace Lyneham Wheatley, Benjamin Charles Ernest Bayley, Basil Oliver, Bernard Frank Matthews, *Associates*; Hugh Stewart, Arthur Cyril Caudwell, Walter West Mabson, and Miss Florence Fulton Hobson, *Licentiates*.

The Secretary announced the nomination for Licentiateship of the 81 candidates whose names were published in the *Supplement* to the JOURNAL of the 27th May.

The President announced that Dr. Wilhelm Dörpfeld, who was to have been present to receive the Royal Gold Medal for Architecture, was prevented by illness from attending, and that, by request of the German Ambassador, Count William Bentinck, *Attaché* to the German Embassy, would receive the medal on behalf of Dr. Dörpfeld.

The Secretary read a letter from Dr. Dörpfeld expressing his regret at not being able to be present, and tendering his thanks to the Institute for the honour they were conferring upon him.

Professor Beresford Pite [*F.*] having delivered an address on Dr. Dörpfeld's life and work, the President briefly addressed Count William Bentinck and handed him the Royal Medal for transmission to Dr. Dörpfeld.

Mr. Lawrence Weaver, F.S.A. [*Hon.A.*], having read a Paper on THE INTERLEAVED HEIRLOOM COPY OF WREN'S "PARENTALIA," and showed a number of lantern slides in illustration thereof, formally presented to the Institute the volume in question, which, through the efforts of Mr. Weaver, had been purchased by subscription from the last surviving direct descendant of Sir Christopher Wren.

The President having accepted the volume on behalf of the Institute, a vote of thanks to Mr. Weaver, moved by Mr. H. H. Statham [*F.*] and seconded by Mr. Paul Waterhouse [*F.*], was carried by acclamation.

The President announced that the Council had decided to extend the present Session until the 31st October.

The proceedings closed, and the Meeting separated at 9.40 p.m.

THE DESIGN AND CONSTRUCTION OF BELFRY STAGES AND SPIRES IN STONE AND BRICK.

By Herbert Lewis Honeyman, R.I.B.A. Essay Medallist 1911.

Essay submitted under the motto "Dulce est Desipere in Loco," awarded the Royal Institute Silver Medal and Twenty-five Guineas, 1911.

Introduction.

FROM the commencement of architectural history two geometrical forms of composition have impressed themselves on men's imaginations as being the grandest creatable by human invention, namely, the vertical prism, or "tower," and the acute pyramid, or "spire." The tower, whether used as a belfry, as a fortification, or as a monument of victory; whether the column of the Romans, the jaya sthamba of the Jains, or the minar of the Pathans, was pre-eminently the token of worldly power and success. The spire, on the other hand, whether it took the form of Egyptian obelisk, Etruscan tumulus, Buddhist tee, prehistoric standing-stone, or Zimbabwe "tower," was always associated with religion and exalted sentiments generally. When, therefore, the mediæval designers of Europe began, in the twelfth century, to surmount with spires the bell towers they erected for their religious establishments, they combined in one perfect whole the two most sublime forms known to ancient architecture; fitly showing forth that combination of spiritual and temporal power which was the mediæval church ideal: a combination more consciously symbolised by the superimposed cock, cross, and orb with which many of these steeples were terminated. Restless modern minds have seen in the steeple fresh meanings, some perhaps rather far-fetched. "The spire," says Mr. Francis Bond in his account of English Gothic architecture, "was a concession, the chief concession in Gothic architecture, to religious symbolism." (Unfortunately he does not quote any mediæval writer to confirm this.) According to A. W. N. Pugin, "the use and intention of spires may be considered under two heads: (1) *Natural* and (2) *Symbolical*;" (1) "Is a covering or roof to the tower (necessary for the suspension of bells)"; (2) "to make that roof an emblem of the Resurrection and to elevate the great symbol of our redemption," *i.e.* the Cross.

Perhaps Charles Kingsley most fully expressed the nineteenth-century view of spires when he said: "The especial want of all Greek and Roman buildings with which we are acquainted is the absence—save in a few and unimportant cases—of the pyramidal form. . . . Their builders were contented with the earth as it was. There was a great truth in that, which I am the last to deny. But religions which, like the Buddhist or the Christian, nurse a noble self-discontent, are sure to adopt sooner or later an upward and aspiring form of building. It is not merely that, fancying heaven to be above earth, they point towards heaven. There is a deeper natural language in the pyramidal form of a growing tree. It symbolises growth, or the desire of growth. The Norman tower does not aspire to grow. . . . For it has

no touch of that unrest of soul which is expressed by the spire, and still more by the compound spire, with its pinnacles, crockets, finials, which are finials only in name, for they do not finish, and are really terminal buds, as it were, longing to open and grow upward."

It is unnecessary to quote further examples of this kind of sentiment, especially as it is now somewhat out of fashion; a fact of which we should not be, perhaps, altogether proud. By way of contrast may be noted a whimsically practical view expressed by Price in his *British Carpenter* (1753): "None of them (spires) are executed without weathercocks, or vanes (and which I am led to think was the cause of erecting them)."

Poets have recognised the essentially poetic beauty of a well-proportioned spire. Wordsworth, who was so notably the poet of "still life" and "things seen," wrote how

> "Hope had her spire
> Star high and pointing still to something higher."

Other references are well known, such as the fine but ungrammatical

> "Spires whose silent finger points to heaven."

And Tennyson wrote how, at Coventry,

> "I hung with grooms and porters on the bridge
> To watch the three tall spires."

Many great painters and draughtsmen have delighted in the delineation of steeples, even at a time when steeples were condemned as barbarous by a super-refined generation. Artistically, as Mr. Bond points out, "the spire's special value lies in the strength of contrast which is afforded between the vertical lines of the spire and the prolonged horizontal lines of nave and chancel. Equally effective is it whether central, converting all the projected masses of the buildings into one converging pyramid; detached; or giving the noblest of façades to the parish church."

In these days of augmented interest in "town planning" steeples should not be forgotten by would-be designers of perfect cities. Many city-scapes are only saved from utter ugliness by the graceful or curious steeples which raise smoke-blackened or weather-bleached heads protestingly out of what is otherwise a welter of mingled stock bricks and Welsh slates. The value of a small acute spire to form a point of contrast with any large rotund structure—for example, St. Martin's, Ludgate, in front of St. Paul's Cathedral, London—has been often pointed out and was fully realised by the ancient Egyptians, who placed obelisks immediately in front of their mighty pylons. There are few more appropriate terminations for a vista (especially a narrow vista) than a steeple, and they are no less successful rising out of groups of trees as centre points in large open spaces.

A picturesque steeple is, moreover, a redeeming feature in many a mean street, where it shines the more brightly by contrast with sordid surroundings, and where it manifests a sort of personality to the man-in-the-street, who, passing it day by day, greets it as an old friend, rejoices when it is kept in good repair, and feels an almost personal shame when vandals "preserve" it by burying its time-given beauties under three coats of drab-coloured oil paint (as recently happened to an example of the essayist's acquaintance).

Steeple construction is exceedingly simple and safe, yet a lofty spire never fails to impress the commonalty as an almost miraculous piece of work—a subject for civic boasting and local pride. This is, perhaps, not a very elevated reason for spire building, but, human nature being what it is, we cannot (nor ought we to) entirely ignore it.

Nor should the *use* of a steeple as a belfry be forgotten. Bells have been condemned as barbarous and altogether objectionable noise-producers (see page 628); but good bells are

always pleasant to the ear (ascetics have denounced them for that reason), and their music has been appreciated by such men of taste as Cowper, Hood, Longfellow, and Tennyson :—

"What sound was dearest in his native dells?
The mellow lin-lan-lone of evening bells,
Far, far away."

There is at present a regrettable lack of interest in steeple design; clergymen, and even some architects, preferring to spend on elaborate chancel furniture, seen only by the congregation and only enjoyed by the officiating clergy, the money which might have provided a simple belfry and spire of wood, if not of stone, visible to all men, and not less visible to God than a brazen screen or an elaborate reredos. "These things ought ye to have done and not left the other undone."

SPIRES IN ANCIENT TIMES AND IN ASIA.

The subject of this essay forbids detailed consideration of the above, which were developed independently of belfry stages; but in order to understand the continued popularity of spires it may be well to sketch the history of the spire idea before it was joined to the tower idea to produce the mediæval steeple. Though it is not necessary here to collect spire origins—like the needlework patterns spoken of by "Water-Poet" Taylor :—

"With much praise and industrie,
From scorching Spain and freezing Muscovie,
From fertile France and pleasant Italie,
From Poland, Sweden, Denmarke, Germanie,
From spacious China and the Kingdoms East,
And from Great Mexico, the Indies West."

Mere bulk, however unadorned, has always appealed to "the vulgar," and, as pyramidal bulk is bulk in its most stable form, monumental pyramids were perhaps the first manifestations of the spire idea. Of bulky, low-pitched spire forms, the earliest type is the conical cairn or tumulus found all over the world. This, made square in plan, vast in size, and cased with polished stone, became the pyramid of Egypt, the very mention of which suggests all that is great and enduring. Circular in plan, heightened, rounded domically and finished with an elaborate finial, the tumulus became a Buddhist stupa, which, by reduction of the dome and enlargement of the finial, led to such developments of monumental art as the dagoba of Burma, the Chinese pagoda, the "Orissa dome," and the Hindu vimana. The Greeks raised the pyramid on a square stage and built the Mausoleum of Halicarnassus, one of the wonders of the ancient world. The Etruscans associated a central tumulus with four cones on a square base in such works as the "tomb of Aruns"; and their successors, the Romans, placing a tumulus on a circular tower over a square base, produced the huge mole of Hadrian, or finished a little temple with a pyramidal roof in such sepulchral monuments as the "tomb of Absalom" at Jerusalem. After the Roman Empire's decay tumulus spires became extinct in Europe save for a few unimportant examples.

Height, combined with slender tapering outline, appealed to the more cultured class in the early world, and, as this was also the religious class, the slender spire form acquired symbolic meanings, varying according to the refinement or sensuality of the religion and culture involved. Of slender spires, and in fact of the modern spire idea, the original form was the menhir or standing-stone, which the Egyptians elevated on a pedestal and refined into the obelisk. It is interesting, as showing the Egyptians' admiration for obelisks, to note that Senmut, the architect, appears to have been more famous for the two electrum-pointed obelisks he erected at Karnac for Queen Hatshepsut than for the very beautiful temple he built at Deir-el-Bahri for that royal lady. Though certainly Amenhotep Hepu's son (that

first apostle of conscious originality in architecture) did not include obelisks among those structures of which he said: "I did not imitate what had been done before." The Romans adopted the obelisk and in some cases, for example "Pilate's tomb" at Vienne, it resembled our idea of a spire; but, with all its grandeur, their architecture was too true a child of the South to have any liking for pointed roof outlines, except in monuments and small detached structures.

Ancient spires, whether pyramids or obelisks, are clearly distinguished from mediæval European examples by the facts that the spire was built for its own sake as a monument, and that ancient designers never raised spires on lofty towers—for one reason, because towers were then built only for military or astronomical purposes, and therefore required flat tops.

BELFRY STAGES AND SPIRES IN CHRISTIAN EUROPE.

For historical purposes Europe may be divided into four steeple-building provinces:—

(*a*) North-Eastern Europe.

(*b*) France—except the south.

These are the provinces wherein the mediæval spire originated. It is uncertain in which province spires first appeared, but they were first built of stone in France. France is placed second here because it naturally leads to the next province—

(*c*) Great Britain.

Distinct from the above, yet powerfully influenced by (*a*) and (*b*), is the last province—

(*d*) South-Western Europe.

SPIRES AND BELFRY STAGES IN NORTH-EASTERN EUROPE (GERMANY, AUSTRIA, SWITZERLAND, BELGIUM, HOLLAND, DENMARK, AND SCANDINAVIA).

The first spires in this province were high-pitched timber roofs on rectangular towers, both roof and tower being usually very plain. Almost, if not quite, as early were the conical spires which capped the round towers and turrets found in German and Flemish Romanesque architecture. "Tallness of roof appears always to have been considered a beauty by German architects," and, according to Fergusson, "it is by no means clear that the spire, properly so called, is not an invention from the banks of the Rhine." The idea of reproducing these timber spires in stone seems to have first occurred to the builders of the Rhenish district of Germany in the twelfth century, not, perhaps, altogether without inspiration from France; and thence stone and brick spires spread all over North-Eastern Europe and ultimately into Italy and Spain. The roof of Sompting Church tower shows German influence in English pre-Conquest work.

Three forms of spire (figs. 18, 19, and 20*) were invented in North-Eastern Europe. Of these, figs. 18 and 20 are octagonal in plan, while fig. 19 may be either octagonal or square set diagonally. Fig. 18 is sometimes found in Britain and is the most pleasing of the three, but none of them look really well in stone, and the belfry stages they surmount are as barren and uninteresting as such structures can be made. Spires constructed of open tracery work are a later development, peculiarly German and very suggestive of timber work.

Brick steeples being treated of in a separate part of this essay, what follows is intended to apply more especially to stone spires and belfry stages.

In the thirteenth century, subsequent to the period of anarchy called the "Great Interregnum," the native German Romanesque style, founded on the Lombardic, and used all over North-Eastern Europe, was almost completely superseded by French Gothic, which had

* The illustrations are given at the end of the Paper.

already (1248) been adopted for Cologne Cathedral—but the local forms of spire continued in use, especially for buildings of secondary importance. Also, in the following century the open-work spire was developed, carried to mechanical perfection, and introduced into the adjoining provinces. One German feature was never abandoned and strongly influenced late French Gothic, Italian Gothic, and early British Gothic revival work, namely, the use of gables instead of a level wall-head between tower and spire. Freiburg shows a characteristic late treatment of these gables, which are there purely ornamental and practically part of the pierced parapet.

For important church steeples, belfry stages and spires of French type became the rule but treated with a superabundance of attenuated detail not permitted in France till a late date. The late German Gothic spire was crocketed and finialled *usque ad nauseam*; its sides were cut into open tracery or scarcely more solid panelling, and it sprang from a pinnacled and parapeted base which obscured its junction with the belfry stage. Belfry stages in the best examples (*e.g.* Ulm and Freiburg) maintained their position and distinctive character as such; strengthened by buttresses, overlaid with lace-like veils of tracery (Strasburg and Ratisbon), and crowned by pinnacled open parapets, they are often fine pieces of design and mason-craft. Yet not seldom (St. Stephen's, Vienna, and Cologne Cathedral) they are buried in a mass of detail which envelops the steeple from base to apex and renders it difficult to distinguish between belfry and spire. In the fifteenth century, German and Flemish masons had come to regard steeples as opportunities for exhibiting the complete mechanical perfection they had reached; but they did not know how to use their craft to the best architectural advantage, and even from the mechanical point of view the late German steeples are neither more daring in construction nor stronger in detail than the south-west steeple of Senlis or the western belfry stages of Reims. In fact it may be doubted whether even Strasburg's 466 feet of almost infernal ingenuity and Ulm's monster spire 529 feet in total height are architecturally "worth while." Still, it must be admitted that some of the late Gothic steeples in North-Eastern Europe (including those completed in the nineteenth century, such as Ulm and Cologne) are among the most imposing buildings in the world; several of them exceed 400 feet in height, and their elaborate detail in some cases increases their apparent dimensions. The principal German mediæval steeples seldom have a steeper pitch than 82.58°, and are usually shorter than the towers they surmount.

As compared with England, the lack of good village church spires is very noticeable; to quote Fergusson: "The village churches of Germany" (and of the whole North-Eastern province) "were little more than plain halls. The single spire, which was intended to be their external ornament, was generally placed on a square tower without buttresses or break, and the transition between the two parts was seldom even broken by battlements or pinnacles. After the Reformation, as may easily be understood, it was worse."

After the introduction of Renaissance detail in the sixteenth century stone spires were almost entirely abandoned, and wooden spires degenerated into vulgar bulbous conglomerations such as no respectable Tartar would have perpetrated. A seventeenth-century manuscript treatise exists which gives proportions for the parts of a church. In it the tower walls are stated to be 5 feet thick for every 100 feet of height, and the ground floor of tower to be as high as the whole tower is broad, the upper floors being regulated accordingly. It does not appear to contain any reference to spires.

In modern times, under Gothic revival influence, some good spires have been erected in North-Eastern Europe, and several ancient ones have been completed or restored. Recently some interesting steeples have been built in a free style of *l'art nouveau* type. They are far from being "good," though Teutonic new art is certainly inclined to be more severe and less wriggly—also less refined—than that of France.

SPIRES AND BELFRY STAGES IN NORTHERN FRANCE.

To the student of steeple architecture France is a most interesting province. There the bold experiments were made, there the bright and clever details were invented, which supplied inspiration to the architects of other provinces at all periods, except a few hereafter to be referred to.

In order to understand French mediæval architecture it is necessary to have some idea of the state of that part of Europe during its great creative steeple-building epoch, that is, from 1100 to 1300, after which period the spires erected in France were to a certain extent reproductive, or influenced by backwashes of inspiration from Flanders, England, and after the Renaissance, Italy.*

The facts are so well known to students of French art that they need only be briefly noted here. Until wars, religious persecutions and foreign aggressions had welded Franks, Burgundians, Normans, more or less Latinised Celts, and primitive Basques into a united French nation, France was divided into provinces that were practically independent of each other in every way save in their common acknowledgment of the suzerainty of the King of the Ile de France, who ruled in Paris. These provinces were divided roughly into (*a*) north and east of the Loire, Normandy, Brittany, France proper, and Burgundy, all except Brittany inhabited by peoples having an admixture of Teutonic blood; (*b*) south of the Loire, Provence, Aquitaine, Anjou, and Auvergne, peopled by more purely Celtic races and retaining traces of Roman culture.

It is impossible to trace here the process by which Frankish culture and dominion were gradually extended over the adjoining provinces, but it may be noted that lofty spires are a northern feature which was never adopted by the southern provinces, with the exception of Anjou, where comparatively acute spires are found as early as in the Ile de France.

In this essay the spire architecture of Southern France will be referred to in the South-West European district (see page 615), leaving for consideration here the Ile de France, or central district, Normandy, Burgundy, and Brittany: Flanders being counted as part of North-Eastern Europe.

Adopting the classification outlined on page 616, the spires of Normandy belong to Types I. and II., with a few of Type III. (in this, as in some other respects, they resemble English work); those of Central France belong to Type III., with a few of Types I. and II. The Norman bell towers were square, and the earliest were capped by stone pyramids or timber spires. The stone pyramids were low-pitched and evidently of lithic origin; the courses of stone being treated as "weatherings" and having no imitation tiles carved on them. Thaon is the best known of these pyramids. It has no angle beads and is pierced by four lucarnes, or spire lights (which, as they are all on the same level, cannot have been holes for crossed tie-beams, as has been asserted). The timber spires were much more acute than the stone pyramids and were covered with tiles, slates, or shingles, cut into fish-scale or other shapes. These timber spires were frequently octagonal, the squinches being covered with small pyramids (*e.g.* Alzy, near Château Thierry) or with semi-pyramids (*e.g.* St. Etienne at Vignory). Low stone pyramid spires were abandoned under French influence, but square belfry stages still remained characteristic of Norman work.

In Central France, on the other hand, the Type III. spires of the south-west (*e.g.* St. Leonard, Haute Vienne, and Uzerches, Corrèze), with their octagonal intermediate stage between square tower and octagonal spire, were adopted and perfected. In the *clocher* of the

* "The great merit and the great secret of French architecture, as practised in the thirteenth century, is that it is original, and the architects, uninfluenced by precedent, were doing the best they could to attain a perfectly definite aim, and doing this with an earnestness that has never been equalled, and on a scale that has seldom been surpassed." (*Fergusson.*)

Trinity at Vendôme are found all the elements of the Central France steeples; these are as follows: a tower, having strong buttresses; a belfry stage, having two separate windows in each of its faces; an octagonal stage (which became the bell chamber), having a pinnacle or turret (at Vendôme semicircular in plan) over each squinch-cover* of the square tower; and a spire nearly as tall as the tower it surmounts. At Chartres south-west steeple this composition is found much improved in the twelfth century. Chartres is too well known for description here. According to Viollet-le-Duc it is: "La plus grande (flèche) que nous possédions en France. La simplicité de la masse, la juste proportion de ses diverses parties, son heureuse silhouette [a point considered of great importance in spire design by M. Viollet-le-Duc], en font une œuvre architectonique qu'on ne saurait trop méditer." At St. Denis (1215) the composition was lightened by the open character of the angle pinnacles and by curious slits in the sides of the spire. At Laon the turrets are made especially large and are in two stories; at Etampes they are three stories high; while at Senlis (south-west spire) a maximum of elegance is attained: the proportions of all the parts are heightened and refined, and all parts of the belfry stage are freely adorned with carving and sculpture. All these spires are covered with fish-scale carving in imitation of tiles; they have prominent angle beads and very often intermediate beads in the centre of each side of the spire; and from at least as early as 1215 their angles and pinnacle roofs are richly crocketed. The incomplete western steeples of Reims Cathedral (1260) and the now destroyed spires of St. Nicaise at Reims (illustrated in Viollet-le-Duc's *Dictionnaire*) show the latest development of steeple building in Central France before the troubles of the fourteenth century. They are splendid pieces of work and gain by the suppression of some of the features found at Vendôme and Chartres.

Returning to Normandy, after the introduction of the style of Central France the early timber spires are found reproduced in stone with French Gothic details. Figs. 2 and 14 illustrate spires of this class, which is also found in the adjoining parts of Northern France. But in the Caen district a very interesting and distinct type arose: this has an octagonal spire placed directly on a square belfry stage of great height. In each face of the spire is a dormer of very slender form, and on each squinch-cover is a fairy spire-crowned castle-in-the-air, forming a pinnacle. The spire itself has angle beads, scale carving (frequently in bands alternately plain and scaly), and in some cases cusped openings (St. Pierre at Caen). Tower and spire are more abruptly separated than in the Ile de France, while the lofty square belfry differs entirely from the Type III. composition, with its two windows in the square tower's upper story and single central window in the octagonal stage—a composition which forms such a prominent feature at St. Albin, Angers, and Chartres south-west steeple. St. Pierre at Caen brings the Caen type to the fourteenth century. It has a parapet with angle pinnacles in addition to the usual pinnacles on its squinch-covers. Norrey, Bernières, and Ducy are all good examples of spires erected in the Caen district.

The fine western spires of Coutances Cathedral show a mingling of Norman and Ile de France traditions: their stair turrets are unusually prominent.

Square spires were also sometimes built in Normandy with Gothic detail. St. Loup, Bayeux, is an early specimen, while Allemagne has detail like that of the Caen spires. In Northern France are no spire lights like those of Northamptonshire, nor are squinch-covers (except the form in fig. 2) architecturally emphasised. The Norman spires have always been much admired in Britain. St. Pierre at Caen, according to Fergusson, "unites all the properties of a good design without either poverty or extravagance"; but Viollet-le-Duc's opinion is as follows:—

"Le domaine royal est la véritable patrie des flèches: La Normandie a élevé, pendant le XIII siècle, un grand mbre de flèches qui existent encore, grâce à la bonté des matériaux de cette province; mais ces conceptions sont

* For a definition of "squinch-cover" see page 630.

loin de valoir celles de l'Ile de France. Les flèches des églises de l'Abbaye-aux-hommes de Caen, des cathédrales de Coutances et de Bayeux ne nous présentent pas une entente parfaite des détails avec l'ensemble; leurs pinnacles sont mesquins, confus, couverts de membres trop petits pour la place qu'ils occupent; les silhouettes sont molles, indécises, et n'ont jamais cette mâle énergie qui nous charme dans les contours des flèches de Chartres, de Saint-Denis, de Senlis, de Vernouillet, et d'Etampes."

In Brittany spires are of a somewhat mixed character, chiefly Northern in feeling. They are often late in date, and constructed of open tracery work.

Burgundy has few important spires: the earliest show strong German and Lombardic influence; the latter are more French. The steeple of St. Pierre at Vézelay, with corner shafts supporting angels whose wings are outstretched against the sides of the tower, and an unusual treatment of string-courses, shows what Burgundians could do in the spire-building epoch; but the influence of the Cistercian Order was supreme in the church of Burgundy, and, to the Cistercian, steeples were strictly forbidden.

SPIRES AND BELFRY STAGES IN FRANCE AFTER THE FINAL ESTABLISHMENT OF FRENCH INDEPENDENCE.

From 1340 to 1450 France built few spires, for during that period France was struggling for its very existence as a nation, and funds were needed for more urgent matters than steeple building. When at last the cause for which Joan of Arc had given her life had been successfully finished by "a meaner and more astute patriot, Louis XI.," and France was, for the first time, a free and united nation, foreign art had to repay some of its debt to France before *French* national art again became possible. It is on record that Joan of Arc's sacred banner was painted by a Scottish artist, and the joint influence of England and North-Eastern Europe (where the Flemings had arrived at a high degree of artistic perfection) is apparent in early "flamboyant" architecture. The finest flamboyant spire—perhaps the best Late Gothic spire in Europe—is that (371 feet high) which was erected on the north-west tower of Chartres Cathedral early in the sixteenth century. It is of Type III., with two octagonal stages, of which the upper is set diagonally. The various changes of plan are skilfully managed: the eye is led from belfry to spire by a series of graceful pinnacles and flying buttresses, and the stair turret is boldly carried up and made a feature of the design. This spire is covered with scale ornament, but others of the late French spires are of open tracery work, evidently derived from Germany or Flanders, but treated with a grace never attained in North-Eastern Europe. Few of the late French spires are of large dimensions. The south-west spire of Notre Dame de l'Epine is well known and deservedly admired. The church of St. Laurent, at Rouen, has an incomplete steeple which was intended to have a slender spire or central pinnacle. The lower part of this steeple is very simple and the concentration of ornament at the summit is most admirably managed.

Spire design in France was still alive and progressing, though with less strength than in its earlier days, when the Classic revival rose and spread over the face of Europe, blotting out from decoration, though not from construction, the painfully attained results of six hundred years of architectural tradition. In France, Renaissance architecture grew into a great and living style, but its influence on spires was fatal: they simply ceased to be built until the Gothic revival of last century. The Gothic revival reached France (like the flamboyant style) from Britain and Germany, but was carried out by native architects and with less success than in Britain. Modern French spires seem to us too prickly, hard, and suggestive of cast-iron work. Of course, this may be a matter of training and prejudice; once, at Rouen, I heard a "Philistine" admire the modern west front of St. Ouen more than any of the ancient buildings in that city. That was an honest Philistine, what he said doubtless many others think.

Spires in France tended to become small in proportion to their belfry stages in late mediæval work; as a rule they are not of such steep pitch as English spires. While less amateurish than some English spires and more elegant than those of North-Eastern Europe, many French spires show too much conscious striving after originality and splendour of effect; in restraint and pleasant simplicity they are excelled by those of England, where architects have nearly always been disposed to say: *Parce, puer, stimulis, et fortius utere loris.**

SPIRES AND BELFRY STAGES IN GREAT BRITAIN AND IRELAND.

British spires are of special interest, not only because several types were developed here which appeal to us as representing the ideals and preferences of our own countrymen, but also because the spire idea has enjoyed a longer uninterrupted popularity in this than in any other country of Europe. It is also a country whose inhabitants have a great love for bells. The English, as is well known, invented in the seventeenth century a new method of bell-ringing (swinging the bells mouth upwards) and a new form of bell music (change-ringing), unknown in the rest of Europe and only introduced in modern times into Scotland, Ireland, and the British Colonies.

SPIRES AND BELFRY STAGES IN ENGLAND.

Of English belfry stages there is an infinite variety. Some have one (Ewerby), two (Newcastle), or three (Kettering) large two-light windows with traceried heads; Adderbury and St. Mary's, Oxford, have three-light windows. Some have two or more single-light windows, not very deeply recessed (Leighton Buzzard, Patrington, Witney, Bloxham). Some have boldly projecting buttresses, some pilaster buttresses; others again have no buttresses at all. At King's Cliffe, Northants, spire and belfry stage are combined in a very effective way. The early examples please by their simplicity and good detail; the late by their elegance and by the greater completeness of their architectural composition. Of the latter, Coventry could hardly be improved upon. Though many late towers have large windows in their lowest stories yet they avoid top-heaviness by wider spacing of the mullions in their upper windows and by judicious use of panelling. Very few indeed (even where tower and spire differ in date and style) are out of scale or in any way clash with the spires which surmount them or the churches to which they are attached.

If we may believe the evidence of ancient manuscripts, no Anglo-Saxon or Anglo-Norman bell tower was intended to have a flat roof; their roofs were pyramidal, sometimes acutely so, and had finials in the shape of angels (as at Canterbury Cathedral, where the central tower retained the name of "Angel Tower" even after it had been rebuilt in its present form), figures of saints, or elaborate vanes—[for a tenth-century description of a weathercock, see page 625]. But these roofs were, for the most part, of timber ornamented with gilt and coloured metal work. No stone spire can be said certainly to exist in Britain of earlier date than 1200.

As might be expected, the earliest stone spires are found in districts where good freestone was available and where architecture was in a flourishing and progressive state, readily absorbing new ideas from abroad and adapting them to local requirements of taste and workmanship.

On page 616 will be found a system of spire classification suited to all countries, and it will be noticed that most British spires belong to what is there called Type II. Of Type I. there are a few specimens, such as Stanwick, but none of much importance. Those of

* Some French spires show a form of construction unknown elsewhere: instead of the inside line of the belfry wall being carried straight up to meet the underside of the spire, a level space is left on the wall-head inside the spire; *e.g.*, the Trinity spire at Vendôme, St. Denis, where a colonnade continues the inside line of wall; Langrune, where there are internal buttresses; and St. Pierre at Caen. [See fig. 28.]

Type II. vary much in detail, but may for convenience be divided into three classes, namely, the Oxonian class; the Northampton class, or spires with numerous gableted spire lights; and those spires with neither dormer windows nor gableted spire lights.

The Oxonian type is first seen in the central tower of Christchurch Cathedral, Oxford (*c.* 1220). Here there are four pinnacles of peculiar form, placed over the angles of the tower, and between them rises a spire of rather low pitch, having angle beads and no spire lights except four large dormer windows immediately above the tower wall-head. These windows have double tracery and the spire is soundly constructed. The belfry stage of this steeple is well composed. It has the angle turret buttresses characteristic of such thirteenth-century belfry stages as West Walton, Sutton St. Mary, and Lincoln Cathedral, but here they are circular in plan, which is unusual.

At St. Mary's Church, Witney, is a spire [figs. 16 and 17] evidently of similar date to Christchurch, but of better construction and more finished design, though with a plainer belfry stage, which has buttresses only for a third of its height. At Witney the angle pinnacles stand on weathered pedestals (in a rather French manner) and do not have the "stuck-into-a-pin-cushion" appearance of those at, for example, Desborough or Wollaston. The pitch or angle of the spire is more acute than that of Christchurch spire, and therefore more pleasing to British eyes; and the squinch corbels are more logical and sound in construction than the squinch arches of Christchurch. The Oxonian type of spire seems to have been introduced from Normandy, and it never became so common here as the other British types of spire; yet it excels them in beauty of composition and is probably the form Ruskin had in mind when he wrote that: "As the pinnacles are not enough without the spire, so neither the spire without the pinnacles." Its infrequent use of large projecting buttresses and the unity given by its single dormers are also in accordance with his ideals. The spires of Chichester (central), Salisbury (central), Peterborough (south-west), and Truro (central) Cathedrals are all Oxonian, not by direct influence so much as because their designers were more open to outside ideas and less indebted to tradition than the builders of ordinary parish churches. At Salisbury (400 feet high and the grandest spire in England) the introduction of numerous string-courses and the reduced dominance of the dormers show a variation from the type; while at Truro (modern) there is a certain Frenchness of detail.

A certain kind of spire having once become popular in any district, it persists ever after, owing to the conservatism of local tradition, or would do so if tradition were the only guiding force in architecture. And so the idea of angle pinnacles and larger dormer windows persisted in Oxfordshire till the triumph of the Renaissance, when spire-building suffered a temporary eclipse and its tradition was broken.

St. Mary's steeple at Oxford shows the Oxonian spire in the fourteenth century and at its best artistically, though not constructionally. The defect of pinnacled spires lies in the fact that when viewed diagonally the composition loses compactness and the spire appears too slender for its tower. At St. Mary's—and at the contemporary Salisbury spire—a large pinnacle is placed in the void behind each angle or wall pinnacle, resting on the squinch-cover or (as at St. Mary's, where the squinch-cover is flat pavement) on the side of the spire. Such inner pinnacles are, for the sake of the general outline, always larger than the wall angle pinnacles. If supported on the apices of the squinch arches they tend to increase the thrusts of those arches, and if placed on squinch corbels they threaten to crush in the sides of the spire. Nevertheless, their use, as "constructed decoration," may be said to be justified by their excellent effect on the whole composition. The pinnacles at St. Mary's are well disposed, and an open tracery parapet below the pinnacles ties the whole together and effectively divides the spire from the earlier and plainer belfry stage. As usual in Oxonian spires, the absence of upper spire lights leads to a concentration of enrichment at the base of the spire, pre-

venting that "all-overish" effect seen in some rich spires of the other types. The inner pinnacles have arches beneath them to permit of passage round the parapet walk, and a door leads through one of them into the spire's interior [fig. 21]. These openings are inconspicuous, but at Peterborough similar arches are made prominent features of the design.

At Shrewsbury are two interesting "Oxonian" spires. St. Mary's is a well-proportioned example of the type, and St. Alkmund's resembles it, but without a parapet and without pinnacles, its dormer window treatment, however, placing it in this class.

North of Oxford a group of spires takes the local type to the end of the fifteenth century:—

"Adderbury for strength;
Bloxham for length;
King's Sutton for beauty,"

as a local rhyme says, and with them may be included Middleton Cheney. Adderbury, a simple and severe design of the fourteenth century, has only four pinnacles, and they are placed on the squinch-covers. It has a good outline, and an open-work parapet of trefoils is used with good effect. The belfry buttresses are, perhaps, rather slender compared with those in the lower part of the tower. Bloxham will be referred to under Type III. (page 609), but its dormers are Oxonian, and its belfry buttresses stop short like those of Witney. Middleton Cheney has eight pinnacles, of which the four on the squinch-covers are joined to the spire by straight stone struts. It possesses a fine feature in its lofty panelled parapet, but the spire is not a complement of the tower, which would look quite well without it. King's Sutton is a well-known and very elegant spire; it is, indeed, "beautiful," and has a feminine grace which is quite charming. The spire has a tracery garland, and its angle beads are carved with simple foliage, which swells out into crockets at perhaps rather too infrequent intervals. The four outer pinnacles are connected to the four inner ones, and these to the spire, by stone struts with tracery under. All the pinnacles are square, but those on the tower angles are set diagonally to carry up the lines of the belfry buttresses. The belfry stage is well-proportioned but rather lean—in fact, to produce an ideally elegant steeple the spire of King's Sutton should be placed on the belfry stage of Oundle.

It may be noted that Oxonian spires—of which the above are the most interesting examples—have nearly always angle beads or rolls, have frequently one or more string-courses and garlands, and do not emphasise their squinch-covers architecturally: in which respects they follow the spires of Northern France.

Contemporaneously with the erection of the first Oxonian spires an entirely different type came into existence in Northamptonshire and Lincolnshire; a type whose chief decoration consists in prominent semi-pyramidal squinch-covers and numerous tiers of gabled spire lights. This kind of spire is sometimes known as the "Northamptonshire broach," the word "broach"—meaning spire—having remained in use in that district longer than elsewhere. It is also called the "broach spire," which (as was pointed out in the Architectural Publication Society's Dictionary) is a tautology. The oldest "Northamptonshire" spires seem to be in Lincolnshire; for example, at North Raunceby, where the lowest spire lights are much larger proportionately to the upper ones than in later spires and have somewhat "transitional" detail. North Raunceby has no angle beads, pinnacles, or string-courses, in which respect it differs from the Oxonian type. Angle beads were soon introduced, and enrichment was sought by the use of carved knots at the apices of the squinch-covers and at the feet of the angle beads; sometimes (*e.g.* Ketton) niches or buttresses topped the squinch-covers, and finials, carved heads, &c., were lavished on the spire-lights. The squinch-covers are occasionally of "timber," or "plain weathered," form (*e.g.* Etton), but are usually semi-pyramidal, and, for the most part, of steep pitch, as indeed they should be in the absence of pinnacles and parapets.

In Northamptonshire, spires with dripping eaves were built even at a late date, sometimes (*e.g.* Brampton) a band of panels being placed under the eaves so as to suggest a parapet.

At first two or three tiers or rows of spire lights were used, the top and bottom rows having lights on the spire's four cardinal faces, while the four lights of the intermediate row were placed in the diagonal faces (*e.g.* North Luffenham); but in the more lofty later spires four rows (*e.g.* Newark) are found, and sometimes all the lights are in the cardinal faces (*e.g.* Frampton). Grantham spire has eight lights in each of its two uppermost rows, but this mistake was generally avoided.

After parapets became usual on church roofs they were used for tower roofs also, and though reluctantly adopted in Northamptonshire itself, they early attained an established position in Lincolnshire and Nottinghamshire. At Holbeach and Bingham the parapets lack pinnacles, but in the steeples of Heckington, Newark, and Grantham pinnacles are used in excellent combination with the belfry buttresses. The spaces behind the pinnacles (see page 606) are in these cases filled by the lofty squinch-covers, but in order to provide passage-way round the parapet it was necessary to pierce the squinch-covers or the pinnacles by picturesque but troublesome archways. The final solution arrived at in this class of spires was to suppress the squinch-covers and join the pinnacles to the spire by stone struts or "flying buttresses," the usual characteristics of the Northamptonshire class being still retained—except at Louth, where there is only one row of spire lights. Of these strutted, pinnacled spires, Moulton is the most beautiful. Its struts are gracefully curved, and, while not pretending to have much to do, they serve a useful purpose by stiffening the pinnacles. At Billingborough the struts are too light, while at Higham Ferrers they are too heavy. Louth (300 feet high), built in 1515, is to this class what King's Sutton is to the Oxonian type, and St. Michael's, Coventry, to Type III. in England. Its pinnacles are unusually large, while its struts are of open tracery work, bulky yet light; moreover, it surmounts a very fine belfry stage.

Lichfield Cathedral's three spires belong to the Northamptonshire type, but are treated with extraordinary elaboration, pinnacles, spire lights and numerous string-courses being all much enriched: the decoration is, in fact, rather overdone.

Before leaving the above type mention must be made of a group of spires having crenellated turrets instead of pinnacles. These turrets are placed either on the squinch-covers (*e.g.* Leverington) or on the tower angles (*e.g.* Kettering, Oundle, and Byfleet). Kettering's turrets have loopholes which are splayed internally, so as to be quite efficient from the military point of view.

The "Northamptonshire" type seems to have been evolved in this country without external assistance. It is more straightforward but less cultured than the Oxonian type, and is frankly an ornate tower roof, not (except in late specimens) a piece of monumental architecture. In its simplest form it is admirably suited to small rural churches and to belfry stages with pilaster buttresses; but at Ketton it looks rather overdressed, and if it have corbelled eaves and no buttresses (as at a Congregational church in Lincoln) it looks top-heavy, especially if the line of spire slope comes beyond the line of wall, instead of finishing as at Leckhampton. In its latest form, as at Moulton, it can be made rich and elaborate without risk of artistic failure.

Somewhat later than the two former types, in fact not till after the general use of parapets, a form of spire arose differing from both of them. This, which may be called the "plain octagonal" spire—of which Bridgwater, Solihull, Norwich, and Fenny Compton [fig. 34] are varied but characteristic examples—shows an octagonal spire rising, without visible squinch-covers, above a parapet with or without pinnacles. It is sometimes found on a simple kind of belfry with no buttresses and a projecting stair turret at one angle, but

it is also used for some of our most elaborate steeples. In this variety of spire, dormers and gabled spire lights are absent, and are replaced by string-courses and plate tracery, as at Solihull and Stoke Golding, or panelling and small buttresses, *e.g.* Norwich Cathedral and St. Michael's, Coventry. Norwich and Patrington are the most important of the class: the former is noted for its curious buttresses and its frank disconnection from its tower; the latter is a plain spire surrounded at its base by a graceful corona of open arcading, having fifteenth-century detail. In this it is unique among English spires, but the central spire of St. Lazare's Cathedral at Autun has a similar feature of equal elegance. The angle pinnacles of Patrington are very peculiar. They stand astride the parapet walk and are joined to the spire by struts. Coventry would be in this class did not its octagonal intermediate stage place it in Type III.

There remain for consideration spires of Type III. (page 616). (Steeples will be found on page 618; flying spires, page 619; chancel-arch steeples, page 621.) This French form seems to have been alien to British mediæval ideas, although one of our most ancient spires belongs to it, viz. Barnack, where a late twelfth-century belfry stage and spire surmount a Saxon tower. Barnack spire is of low pitch and less than half the total height of the steeple, but these rather Continental proportions are well suited to this particular case. Thirteenth-century examples are few, but the fourteenth-century has several, of which the finest is Bloxham [fig. 23], a steeple which must be seen in order to be properly appreciated, as drawings do not justly represent its effect (owing to the apparent weak points where the square becomes an octagon). Notable features at Bloxham are the large crockets, of which there are only two tiers (the whole height may have been intended to be crocketed originally), and the extremely rich cornice of the belfry stage, supporting a parapet which more nearly resembles French flamboyant work than any other in this country. Only the upper half of the belfry stage is octagonal, and the pinnacles are small. In fact, small pinnacles are an English feature in this kind of steeple, as is also the substitution of square for octagonal pinnacles (*e.g.* Wilby) and the use of slender buttresses (*e.g.* All Saints', York). Wilby is a pretty little steeple, well-proportioned, and of pleasing outline. Several good simple spires of this class are illustrated by Wickes. All Saints' Church, North Street, York, has a slender spire (120 feet high) of late Gothic style [fig. 31] whose special excellence lies in its unassuming simplicity and good profile—qualities that stand it in good stead now that it is surrounded by a very depressing environment. Here, as also in the central lantern of Wymondham, two octagonal stages are present and buttresses rise from the squinch-covers. This steeple and that of St. Mary's, Castlegate, York, are more influenced by the lanterns of some other York churches and Boston "Stump" than by the Continental forms of Type III. St. Michael's, Coventry, built in 1432, shows the latest development of Type III. in England: its tower is of the same composition as Boston "Stump" (which was probably also intended to have a spire), but is more elegant; its angle pinnacles are joined to the base of the spire by ogee-shaped struts (as in the Rouen lanterns), short lengths of buttress ornament part of the spire's height, and the whole steeple is freely enriched with panelling. Some lack of constructional fitness there is in its details, and even some lack of freshness in its ornament, yet it is generally acknowledged to be one of our best spires, and few, if any, modern examples, in its style, have surpassed it. St. Michael's steeple is a fitting finial to English mediæval spire design, and a standing refutation of the theory that *all* "Perpendicular" Gothic is bad. *Some* of it, no doubt, is bad and decadent enough.

The general use of flat roofs on churches led to their toleration on towers, so that, although more belfries were built in the fifteenth and sixteenth centuries than ever before in England, the majority are spireless.

Note.—English mediæval spires are seldom less than half the combined height of tower

and spire. Except a few early examples, their angles vary from 83.5° to 85°; the latter pitch is quite common in English work.*

MEDIÆVAL SPIRES AND BELFRY STAGES IN SCOTLAND.

In Scotland no stone spires are found till the fifteenth century, because before that period "wealth, peace, leisure, culture, and national entity" were not simultaneously present, and without their united presence no nation ever indulges in the extravagance of stone spire building. The oldest stone spire in Scotland is that of Glasgow Cathedral. The timber spire there having been destroyed by lightning in 1400, its belfry stage was heightened in 1410 and a stone spire, 219 feet high, built before 1430. The arrangement and number of its spire lights (which have ogee-shaped gablets) and the size of its squinch-covers (which have pinnacles on their apices) place it in the "Northamptonshire" class. A peculiar local character is given to the design by the way in which the two principal string-courses or cornices, which encircle the spire, are treated. The lowest carries a pierced parapet—vertical, not sloping as in the English garlands—with pinnacles at its angles; the upper is similar but of smaller dimensions. [Similar parapets or galleries are found at Burgos and Batalha; and the architecture of the Spanish Peninsula was admired in Scotland, judging from the words of the poet, James Dunbar:—"Farewell, Lithgow, whose palace of pleasance, Might model be in *Portingall* or France."] The present rather truncated finial dates from the end of the eighteenth century, when the spire (after damage by lightning) was restored by Mungo Nasmyth, a local mason.

The so-called "Fifeshire" spires are all founded on that of Glasgow; their notched or battlemented strings (which sometimes carry balustrades in seventeenth-century examples) and numerous small spire lights sufficiently attest their origin. St. Salvator's Collegiate Church at St. Andrews, and St. Monan's parish church [fig. 24], both built after 1460, seem to be the oldest spires in Fifeshire; Brechin Cathedral, Forfarshire (north-west steeple), may be as old or older. These spires are always separated from their belfry stages by parapets (or balustrades in the seventeenth century), and have frequently squinch-covers of the "timber" form. They continued popular till a late date; *e.g.* Dunfermline 1584, Pittenweem 1588, and St. Michael's, Cupar Fife, 1620. Characteristically Scottish are the spires, 111 feet high, erected in 1530 for Bishop Gavin Dunbar, by Alexander Galloway, on the western towers of Aberdeen Cathedral. These have battlemented strings with small angle pinnacles, and square belfry stages, designed with the spires, separate the spires proper from the heavily parapeted towers of *c.* 1440. They show little Continental influence, though Galloway spent part of his life in Flanders, and, apart from that, the constant trade between Eastern Scotland and the Low Countries might have been expected to cause the appearance of foreign detail in the eastern counties. The incomplete spire of Seton Collegiate Church (*c.* 1510) is unique in Scotland in possessing neither parapet nor pinnacles (Corstorphine has no parapet but has pinnacles; the rest have parapets, though pinnacles are rare). It has "timber" form squinch-covers and no spire lights.

The typical Scottish belfry stage has no buttresses, but its corners may be moulded or chamfered. It is crowned by a parapet which, unlike the later English parapets (except

* As showing the important place occupied by steeples in the life of mediæval England, the following contemporary account of the popular rejoicings at the completion of Louth spire may be of interest:—"The 15th Sunday after Holy Trinity of this year (1515) the weathercock was set upon the broach of Holy Rood Eve after, there being William Ayleby, parish priest, with many of his brethren priests, there present, hallowing the said weathercock and the stone that it stands upon, and so conveyed upon the said broach; and then the said priests singing *Te Deum Laudamus* with organs, and the kirk-wardens garred ring all the bells, and caused all the people there being to have bread and ale, and all (to) the loving of God, our Lady, and all Saints." The entry occurs twice in the building accounts; the other entry is given on page 625.

Wakefield, Yorkshire), is projected on a corbel table or heavy cornice beyond the line of wall below; and its sides are pierced by two or more simple windows having sometimes tracery in their heads and, in some cases, traceried transoms. In St. Giles' steeple, Edinburgh, the belfry window mouldings are of less extended plan towards the centre line of the tower than towards the angles, so that the windows may be closer together than if the outer mouldings were used throughout. It is the same motive as that of the tower at Abbeville, described in Ruskin's *Seven Lamps*.

The old Merchants' House steeple, Glasgow (164 feet high), designed by Sir William Bruce, the architect of Holyrood Palace, in 1651, is intended to be "Gothic," and is the only spire-bearing Scottish specimen of a composition sometimes used abroad (*e.g.*, the belfry of Ghent and the south-west tower of Bâle Cathedral), wherein the tower's upper stories recede somewhat telescopically; its stone spire is surmounted by an unusually large pommel and a ship vane. [For Scottish "crown" spires, see page 619.]

After the Parliamentary union with England, Scottish spires followed English fashions, though with some local character, and will be noted in this essay along with their English contemporaries.

In Wales spires are few and of no particular importance.

Distressful Ireland in the Middle Ages had never wealth, peace, leisure, culture, and national entity, all at the same time. Moreover, good freestone was lacking in many districts. In short, there are no mediæval spires in Ireland, unless a few, of small interest, in the "English Pale." Conical spires surmount some of the Irish round towers, but these were not belfry stages in the ordinary sense of the word, and in any case none of them need further notice here.

SPIRES AND BELFRY STAGES IN THE UNITED KINGDOM SINCE THE REFORMATION.

From 1550 to 1660 practically no spires and few belfries were built in England; partly because Church politics were disturbed, partly because England was already well supplied with steeples, and partly because the Church had been superseded by the aristocracy as chief patron of architecture, and Elizabethan and Jacobean nobles were selfish and preferred to erect houses for themselves and their posterity rather than churches or other buildings for the commonweal. But the British people still admired spires, so those already existing were preserved and restored when damaged by lightning or tempest: for example, St. Margaret's, Stoke Golding, was repaired in 1589; Louth in 1627 and again in 1635; Lichfield central spire was rebuilt in 1661; King's College, Aberdeen [fig. 25] in 1634; St. Giles, Edinburgh, in 1648. In fact in Scotland new spires were built till the pecuniary and political troubles of the early eighteenth century put a temporary stop to their erection. [The seventeenth-century Scottish attitude towards spires may be illustrated by a quotation from Glasgow's Burgh Records, 27th January 1630:—"The bailleis and counsall all in ane voice hes thocht it meit and hes condischendit as ane commoun weil of the said burgh that the stiple of the Trongait Kirk sall be hightet in the most best and commodious forme can be divysit be the best craftismen, with all diligence possible." The present Tron spire (126 feet high) dates from that heightening.]

The Great Fire of London (1666) enabled Sir Christopher Wren to restart British spire tradition on a new line of progress with an impetus not entirely lost at the beginning of last century. What happened after the fire may be explained thus:—All know how conservative children are towards anything having old associations: if his nursery mantelpiece ornaments are "spring-cleaned" the child will not be happy till each resumes the *exact* place it previously occupied. Something of the same sentiment actuated the churchwardens and

parishioners of London. Their churches were to be rebuilt on the old sites, on the old foundations, and to resemble the old buildings. In the nineteenth century, architects could have been found able and willing to restore each church exactly as it stood before, but the seventeenth-century Londoners had to deal with the practical and unsentimental Wren. Their loss is our gain, for assuredly "to do what has been done before is to do nothing" (Giraldus Cambrensis), and London's City churches are a priceless possession. In one matter Wren yielded to popular taste—he designed bell towers for each church, of similar bulk to those which had been ruined. Wren's "steeples" are described on page 619. Of pure spires he erected few in stone. Fig. 27 shows the now destroyed spire of St. Antholin's, Budge Row (1682)—a good specimen of Wren's picturesque and original detail.

Gibbs, Hawksmoor, and Flitcroft continued the Wren steeple tradition, and, while not using the St. Antholin type, they developed Wren's obelisk form (as shown in St. Vedast Foster Church) into a real spire, such as that of St.-Martin's-in-the-Fields (1726), which represents Renaissance spire design at its best, though according to Gwilt it is, "as in all English churches of the Italian style, a sad blemish; but the taste of the day compelled their use, and we regret that the clergy still (1842) persist in considering them requisites" (!) Christ Church, Spitalfields, by Hawksmoor, is almost Gothic in composition, and, like St.-Giles-in-the-Fields (1733), by Flitcroft, is an excellent piece of steeple design.

In the eighteenth century, spire symbolism appeared and Pope could praise the man who "taught the heaven-directed spire to rise." The "Romantic" poets were still more emphatically appreciative of spires—in fact spires became desired adjuncts to all new *parish* churches. [Dissenting chapels had no spires or bells till the nineteenth century, when the Scottish "Free" Church claimed the right to use them after the "Disruption," and the English Nonconformists began to relax their sternly Cistercian ideals of architecture. A story told about the spire in fig. 35 illustrates this: An enthusiastic dissenting lady had asked the parish minister to guess what was the height of her church's new spire, "I think," he replied, "it is the height of presumption."] So as the eighteenth century drew to its close, spires increased in number and in height relative to their towers, from which they were usually separated by more than one intermediate stage. Many are graceful, refined, and pure in detail. They abound in Scotland, where nearly every country town has one or two on church or municipal buildings. Fig. 30 shows one added to the church of Markinch in 1807 and constructed on a square dome, like some early Etruscan structures. Fig. 22 shows that of a small country church in Stirlingshire. It exemplifies in its simplest form the arrangement of parts obtaining in all steeples of this type and period.

Unfortunately, British architecture had, under Classic influence, become over-refined and anæmic; in fact, the Renaissance spire tradition lost most of its former life and energy ere the commencement of the Victorian era.

Coming now to the Victorian era, it is apparent that the spire idea, having survived all the attacks of pedantic classicism, though in a somewhat emaciated condition (literally emaciated to suit early nineteenth-century "elegance"), was only waiting for some new life in British architecture in order to revive its former glories. It had not long to wait ere

> "A breeze through all the garden swept,
> A fuller light illumined all."

Under the influence of the Gothic revivalists, and of ever-increasing commercial prosperity, church building entered on a new phase from the architectural point of view. Simultaneously with this a great awakening occurred in the religious consciousness of the country, and a spire-building epoch followed well able to withstand comparison with those of past ages.

The "Gothic revival" still awaits another Fergusson to chronicle and dissect impartially its causes, effects, defects, and virtues, but it may be noted here that the revival was not "Gothic" in spirit, for, save in the work of a small minority, it was imitative of the works of former times. That is the spirit of "classicism"; the spirit of our mediæval and truly Gothic predecessors was *progress*—not the anarchic progress of the "new art" or "free treatment" enthusiast, but a steady, united movement, ever striving to meet current needs in an up-to-date way. "As general characteristics, we may say that Gothic architecture was developed by free and energetic experiments; it was organic, daring, reasonable and gay: the measure of life is the measure of Gothic" (Lethaby).

"Art is a long story, but its chapters are short," and the Gothic revival's triumph was brief. Nevertheless it justified itself by its works, and these include many excellent belfry stages and spires of stone or brick. It would be easy to find bad modern spires and expose their weaknesses, but, as was said by Mr. T. G. Jackson, "More is learnt by the critical examination of one good building than by the most ruthless analysis of a dozen bad ones." So those spires built before 1850 may be passed over, for, though often archæologically good and sometimes interesting as endeavours after novelty (with the help of German gable motives), they throw little new light on the subject of spire design.

Fig. 35 is a spire by the late J. Hay, of Liverpool, dating from "the 'fifties," interesting as an attempt to decorate construction logically. From this point of view it is almost perfect, its only unnecessary detail being the corbel table which occurs on the horizontal parts of the wall-head. The squinch-covers exactly express their construction (see page 623), and in a way never before attempted; the necessary stair turret is architecturally treated, but not over-emphasised; the spire lights are sufficient for ventilation, but are not obtrusive; and the buttresses are placed at the two angles which do not touch the church and which, therefore, require spreading foundations to prevent the steeple dragging away from the main building [see also fig. 34]—a point forgotten by Ruskin in his comparison of the great campanile of Venice with the stair turrets of Edinburgh U. F. Church College (in his *Stones of Venice*).

Glasgow, "the second city of the Empire," situated in a freestone district and possessing the oldest stone spire in Scotland, might be expected to show good modern steeples; and undoubtedly some of the finest spires of the Gothic revival were erected there. Fig. 29 indicates the spire of Lansdowne U. F. Church, Glasgow, one of the earliest works of J. Honeyman, Esq., LL.D., R.S.A. It was erected in 1862 and is 220 feet in total height. If not the best, it is one of the best modern specimens of the English system of proportions: that is to say, a slender spire placed on a tower not higher than itself. The junction of tower and spire is most ingeniously treated with a small open arcade, the cope of which binds together the pinnacles and dormers (for this spire is of the "Oxonian" type). A minor detail thoughtfully treated is the pair of garlands, which, instead of being traceried in the later Oxonian manner (this spire having early detail), are formed of lattice diaper, like that found in the parts of Lincoln Cathedral erected for Bishop Grosseteste.

In London's suburbs are many excellent spires, built in the 'fifties and 'sixties, whose only fault is their lack of originality; some are built of brick with stone dressings, and one at least (in Hammersmith) has flint rubble with stone dressings—this latter an idea worth noting.

In the 'sixties and 'seventies a strong French Gothic influence spread over British architecture, and particularly church architecture, chiefly owing to the discovery by British architects of how excellent French Gothic was in many ways. At this time some good spires were erected which exhibit a picturesque blending of English and French ideas (*e.g.* the south-west spire of Llandaff Cathedral, by J. Pritchard); as also some more purely Gallic, like the central spire of St. Mary's Anglican Cathedral in Edinburgh, by the late Sir G. G. Scott, R.A.; and some designed by the late G. E. Street, R.A.

Fig. 32 shows a spire designed by the late J. L. Pearson, R.A., for a church at Croydon. Its composition is singularly happy and quite English in feeling, though with some French detail. This spire is suitable for construction in either stone, brick, or timber, with angle pinnacles of the same material.

Fig. 36 gives some idea of a spire (208 feet high) designed by J. J. Burnet, Esq., LL.D., A.R.S.A., for a public building in Glasgow. It is admirable as an attempt to use the spire form for such a purpose, and particularly notable in that the bells are ornamentally treated and made a feature of the design. Like the Continental carillons, they are not meant to be swung.

It will be noticed that most of these modern examples are by men who have been honoured by the universities with honorary degrees, or by their fellow-artists with membership in the English or Scottish Academies. It is not intended to infer that no good work has been done by those less recognised, but the work which has earned public approval is that which best illustrates the art of any period. Some remarks of Mr. Archer *re* "the theatrical situation" seem quite *à propos* to modern architecture:—"It is a grave misfortune for any 'artist' to get into the habit of despising popular taste and thinking he has only himself to please in his work. He is a barren and unresourceful 'architect' if he cannot satisfy his soul without making himself incomprehensible or displeasing to all but a narrow sect of sworn admirers." Or, as "judicious" Hooker put it, "the most certaine token of evident goodness is, if the generall perswasion of all men doe so account it."

At the present day a few English architects, such as Messrs. J. Oldrid Scott & Son, continue the best traditions of the Gothic revival. A few, like Dr. Burnet, have tried experiments which are "worth while"; but for the most part the very small number of stone or brick belfry stages and spires now being built in the United Kingdom are either uninteresting or merely *outré* and perversely ingenious. It is to be hoped, however, that this is merely a temporary lapse from our traditions as a steeple-building nation, caused rather by political and financial troubles than by lack of affection for one of the most monumental kinds of architectural composition.*

SPIRES AND BELFRY STAGES IN SOUTH-WESTERN EUROPE.

Italy.—In Italy, belfry stages or campanili were built from a very early period in the Christian era, and are the lineal descendants of the late Roman brick towers; but spires were only introduced, under Northern influence, in the thirteenth century. Italian mediæval spires and belfries are of very plain character. After the Renaissance greater richness was obtained by a free use of the "orders" on belfry stages, and of ribs and panels on spires. Cremona (1296) and Modena (*c.* 1300) have spires of pleasing proportions. St. Croce at Florence has a stone spire with German gables at its base and a corbelled-out gallery on the spire. Giotto's campanile at Florence was designed for a spire, but of timber, it is said. The Broletto at Monza possesses a brick spire of good outline. But Italian spires of all ages are seldom either of large dimensions or good design. After the Renaissance, stone was not often used for spires, but the well-known steeple at San Biagio, near Montepulciano, is a picturesque exception.

Dome or vault-supported central steeples in receding stages—such as Chiaravalle (1221), the Certosa at Pavia (*c.* 1400), and Milan (1440)—form Italy's only contribution to steeple development.

Note.—Spires in Italy are of moderately steep pitch, but are small in proportion to their towers. Belfry windows are plain through-arched openings, in which the bells frequently hang instead of on a bell carriage.

* Perhaps a revival of spire building will come when British religion has been purged of professionalism, and, by reconstitution on an amateur basis, rendered acceptable to the more thoughtful part of our population.

Spain and Portugal.—The early Romanesque architecture of Spain has no spires, though, like that of Southern France (which it closely resembles in many ways) tall central features and detached campanili were used with good effect. Although French Gothic was largely used in Spain in the thirteenth century (sometimes with very little regard to local climatic conditions), it was not till the fifteenth century, and under the influence of North-eastern Gothic, that Spain developed a national style of church architecture in which spires played a prominent part. These spires were almost always of the German open-work type and of German proportions, but with local peculiarities, of which the chief was the use of small parapets encircling the spires; *e.g.* Burgos and the small spire at Batalha. Another local peculiarity was the use of tracery-work entirely filling the windows; *e.g.* Batalha. After the Renaissance, steeples of very picturesque character were erected in Spain. Of these the Giralda at Seville is one of the earliest and best. Later examples have usually groups of columns at the angles of their belfry stages, with broken entablatures, and by means of diminishing stages lead up to a finial of spire or obelisk form. Modern spires in Spain are few and of no particular interest.

Provence.—In this district spires were unknown, or unappreciated, till after its forcible union with Northern France, and even then not till the fifteenth century. Picturesque campanili had been early introduced, and the late steeples show their influence in projecting galleries and through-arched belfry windows. The latter Southern feature is found even in steeples with such French Gothic detail as Ste. Marthe at Tarascon and Avignon Hôtel de Ville; the former are found on the cupola-crowned Renaissance bell-tower of St. Martin at Arles.

Auvergne.—Spires were not essential features in the curious but picturesque style which grew up among the hills of this isolated province. There is one important steeple at Le Puy en Velay, but it is so purely of the Limousin type that it will be referred to under Aquitaine.

Aquitaine and Anjou.—In these provinces steeples belong to two very dissimilar types. The first seems to have been developed in the district of Périgord. In it the spire is conical and entirely covered with inverted scales of fir-cone type. This is a more logical stone decoration than the tile patterns of the North, for the scales act as saddles, throwing rain-water away from the vertical joints in the stonework. These conical spires have all circular intermediate stages on square towers, and thus come into Type III. (p. 616). St. Front at Périgueux is an early and curious example. Notre Dame at Poitiers (Anjou) is shown in fig. 4, which explains the usual composition adopted. The Abbaye-des-Dames at Saintes is similar, but finer and with angle pinnacles. At Roulet, Charente, the cone has become very acute: it has no circular intermediate stage, and open pinnacles are used over the squinches. Its loftier proportions may be the result of evolution, but more probably were caused by the Northern influence which caused this type of spire to disappear in the twelfth century.

The second type is in two subdivisions. The first is a spire of Type I. (page 616), with curious ears at its angles. In its latest development these ears were truncated and finished with seated figures, while gables were introduced between each pair of ears. This kind of spire is found over a wide area, surmounting plain belfries of eleventh and twelfth century date; *e.g.* at St.-Martin-d'Ainay, in Lyons [fig. 6]. It also surmounts some of the curious steeples in the Limoges district.

These steeples are of considerable height, and their most notable features are: *(a)* their construction in a number of diminishing stories (like many of the Renaissance steeples); and *(b)* the use of gables or pediments below the top story's wall-head (this is said, by G. E. Street, to be a feature of German introduction; but it may be independent of external influence). At Brantôme (Dordogne) the reduced upper stages are carried by corbelling; at Le Puy en Velay (which diminishes from 36 feet square to 16 feet square) they are supported on an elaborate system of superimposed piers and vaults which carry their weight straight down to the

ground. According to Viollet-le-Duc, Le Puy exhibits better construction than Brantôme, but it is the Brantôme form which survives in sixteenth- and seventeenth-century steeples all over Europe. Fig. 3 shows a modified form of these receding belfries.

The second subdivision of this type in Western France is the result of building these Limousin steeples with spires of Types II. (*e.g.* Cormery and Cunault) and III., but especially of Type III. In this way the steeples of St. Leonard, Haute Vienne, with its octagon set diagonally; of Uzerches (Corrèze), and, finally, of the Trinity at Vendôme, came into existence, and by a mutual interchange of ideas between Anjou and the Ile de France these steeples became the forerunners of the south-west spire of Chartres Cathedral, and through it of the most important Type III. spires in Europe. But this spread of Type III. was the work of Frankish artists, for the Western provinces lost their architectural independence in the twelfth century.

Some good spires were subsequently built, *e.g.* St. Albin at Angers, but in the style of the Ile de France; and even the characteristic early spire lights [fig. 1] became extinct (unless those of Northamptonshire are their descendants).

The south-western province of France is not of so much interest architecturally as archæologically, and for the sake of the germs of possible styles which were there created, but had their careers cut short by the all-conquering "pointed arched Gothic" of the North.

CLASSIFICATION OF BELFRY STAGES.

Belfry stages may be divided into two main classes:—

I. Those whose windows, jambs, and arches have receding orders of masonry, and, when of more than one light, are divided by small shafts or tracery [figs. 2, 14, and 26]. This is the Northern type, and such windows do not have bells hung in them, the bells being hung in a carriage supported by intakes or corbels at the belfry floor level: whence is possible the light construction of many Northern belfries.

II. Those whose windows are through-arched without receding orders, and generally without subdivisions [figs. 6 and 36]. This is the Southern type, and frequently the bells are suspended in the windows—a mode of hanging not suited to large bells or change-ringing, unless the belfry walls are of great strength.

I. has usually buttresses associated with it; II. has them very seldom. When belfry stages of Type I. have no buttresses, their angles are sometimes moulded; *e.g.* Iona Cathedral, Scotland, and Wollaston Church, Northants, where plain beads are used, and St. Margaret's Church, Crick, Northants, where ball-flowers enrich the angle mouldings.

CLASSIFICATION OF SPIRES BY DESIGN.

Hitherto spires have been classified in a somewhat superficial manner, first used by Wickes and copied from him by subsequent writers, viz.: spires with parapets or balustrades, and spires with dripping eaves. The following is an attempt to outline a system founded on more fundamental distinctions, the presence or absence of parapets being a minor detail, dependent rather on fashion than on constructional necessity or æsthetic desirability. Spires, then, can be arranged in three main classes:—

I. Spires the same shape in plan as the belfry stages and towers whereon they stand—*e.g.* square on square or circle on circle, &c.

II. Spires of different shape in plan from the belfry stages whereon they stand—*e.g.* octagon on square, circle on octagon, &c.

III. Spires of Class II. separated from their belfry stages by stages of similar plan to their own—*e.g.* octagon on octagon on square, circle on circle on square, &c.

Each of these main classes is subdivisible into (*a*) spires with pinnacles, and (*b*) spires with no pinnacles, which may be again divided according as parapets are present or absent.

Spire lights, garlands, crockets, secondary pinnacles, flying buttresses, angle beads, and surface decorations may by their presence or absence afford further distinctions, so that one might, by stating that a spire is of Type I., $a 2 \phi x$, at once call to mind a particular form without further description. However, this, though not without a certain convenience, savours somewhat overmuch of classicism, and is in any case hardly necessary in this essay.

We may also distinguish IV., "spires which are not spires," in three subdivisions :—

(*a*) "Steeples," or, as Pugin calls them, "fanciful emotions."

(*b*) Spirelets on crossed arches, which Wickes called "flying spires."

(*c*) Small belfry stages and spires supported on the broad chancel arches of a few churches.

The great majority of steeples have spires of Classes II. and III., and it may be mentioned in passing that conical (circular in plan) spires are exceedingly rare. Probably the avoidance of conical spires and of spires of Class I. was due to some such feeling as is expressed by Diderot: "La pyramide est plus belle que le cône, qui est simple mais sans variété."

The form of squinch-cover * in Types II. and III. can hardly be considered a distinction of importance for classification. There were only two forms (apart from flat pavement), viz., the semi-pyramid, sometimes (but erroneously) called a "broach"; and the diminishing splay or "timber" form, similar to the stop of a stop-chamfer. It may be noted that there is no reason why only these forms should be used. Apart from the suggestions afforded by mediæval chamfer-stops, the use of such forms as that in fig. 15 is worthy of consideration.

TYPE I.

This type is found for the most part in early times and after the Renaissance. Most examples have no parapets, not because parapets are unsuitable, but because they were not in general use at an early period. The timber spires shown in Anglo-Saxon Manuscripts are often of this type, as also the Norman pyramids.

TYPE II.

This includes most of the English mediæval spires and many of those abroad. At first the transition from belfry stage to spire was marked only by the squinch-covers (which were sometimes surmounted by pinnacles), and both spire and squinch-covers had dripping eaves, either formed as a corbel table or as a moulded cornice. At a later date, when parapets had for various reasons, chiefly utilitarian, become popular, they were used for spires, rather improving the composition in most cases.

TYPE III.

This is *par excellence* the Continental, and especially the French, type. After its use in France in such examples as Chartres south-west spire it became increasingly popular. A few examples are found in England, of which the finest is, perhaps, Coventry. But on the Continent, especially in France and Germany, this type produced some of the finest steeples, one of the best of which is the spire at Brussels town hall; its composition is particularly happy, and the octagonal part is set diagonally on the square tower, with good results.

Note.—Where angle pinnacles adjoin, but do not touch, the octagonal stage in this type they may be connected to it by flying buttresses in three ways: by a flying buttress to the centre of the octagon's nearest side (which then has no window), by one flying buttress striking

* For a definition of "squinch-cover" see page 630.

the octagon above or below a window (*e.g.* Ste. Marthe, Tarascon, and the belfry of Bruges) and by two flying buttresses to the octagon's adjacent angles (*e.g.* St. Michael's, Coventry).

There is about Type III. a certain complexity, perhaps a greater intellectuality, appealing specially to mediæval Frenchmen and to modern architects of all nations, as compared with Type II., which lends itself rather to repose, dignity, and what has been called English gentlemanliness. Type III. is more clever, smart and interesting, but owing to the much greater weight above the squinches it is not so good constructionally, and, unless large and carefully proportioned pinnacles are placed on the squinch-covers—which are formed in exactly the same way as those of Type II.—the composition is apt to be unsatisfactory when viewed diagonally. With all its artistic dangers, this type has great possibilities, and the difficulties in the way but make it so much the more alluring by virtue of the skill required for its successful treatment.

TYPE IV. (*a*)—"STEEPLES," OR "FANCIFUL EMOTIONS."

Of this class Pugin says: "The consistency of their purpose as *coverings to the towers* being lost sight of, they become mere fanciful emotions, and cannot be defended on principle." This sentence seems to define such steeples uncommonly well. Although not to be defended on principle, they are worthy of study for their picturesqueness and general attractiveness to human nature, so prone to cry "the Grecian gluts me with its perfectness."

Steeples in receding stages had been built in Southern France at an early date, and their use was revived in the fifteenth century (*e.g.* at Antwerp), at a time when outline had been replaced by ornament as a point of chief importance in spire design. This type became one of the most popular after the Renaissance, not merely because it was the "latest fashion" of the Gothic art which the Renaissance had superseded, but because classicised architects saw in it a means of compromise between the public demand for steeples and the unfortunate fact that steeples were not to be found in the works of Vitruvius or even of Alberti. Without actually designing a *spire* it was yet possible, by superimposing a number of diminishing structures, temples, attics, &c., and finishing them with an obelisk, to produce something which the public could take for a spire; and the architect could still quiet his conscience by reflecting that it was nothing so Gothic. For example, James Gibbs, who was considered rather a Goth by the more Palladian Colin Campbell, wrote: "Steeples are indeed of a Gothic extraction, but they have their beauties when their parts are well-disposed, and when the plans of the several degrees and orders of which they are composed gradually diminish and pass from one form to another without confusion, and when every part has the appearance of a proper bearing."

The earliest fully developed post-Renaissance specimens of this kind of steeple were the two campanili which Sangallo designed for St. Peter's at Rome in 1536, and which were condemned as too Gothic by Michael Angelo, who said: "It was more like a work of the Teutons than of the good antique manner, or of the cheerful and beautiful modern style." They were excellent compositions of the kind, and, if Wren had access to drawings of them, may have influenced his work in London.

The early Renaissance steeples of the Continent resemble cupolas rather than spires, and with some exceptions (such as the north-west towers of Evreux and Gisors) are of wood, and therefore outside this essay. The later examples all come after the time of Wren, but few of them (save in Spain) equal his work, so it may be treated of with some fulness.

Wren was perhaps the only "genius" of the English Renaissance; certainly the "talent" of Inigo Jones, our other great man of that period, was of a different order. This is said without denying that Jones's buildings were as good architecturally as Wren's: they *were* as good (sometimes better), but they owed more of their goodness to the Italian masters than Wren's works ever did. Wren, though by training a classicist, was in spirit a Goth, and if he

had any conscientious convictions against spires, he did not let them trouble him; but his steeples, other than pure spires, are under consideration here. As already mentioned (page 612), Wren seems to have been instructed to reproduce the pre-Reformation steeples of those London churches rebuilt from his designs: how well he succeeded can be seen by comparing Van den Hoeye's view, taken 1630-40, before the Fire, with any similar view made in the eighteenth century. Some of these had no spires, and in such cases Wren's practice was to erect either a plain tower, a tower with a picturesque finial of lead-covered timber, or a stone steeple. St. Stephen's, Walbrook, and other small examples, charming in their quaint composition and bleached stonework, need no special notice. Two, however, must be more carefully analysed, viz. St. Mary-le-Bow and St. Bride's Church, Fleet Street. St. Bride's (1680), which strongly resembles Wren's "warrant" design for the central spire of St. Paul's, differs from almost all others of its kind in that the diminishing stories are of similar instead of varied design. It has sometimes been compared to a pagoda, and with reason, for its effect is derived from similar sources to those used by the pagoda builders. That is, it relies on height and repetition of small parts to produce the appearance of greater height and dignity than the actual dimensions permit. Its obelisk finial is unusually large (but was 8 feet higher before its last restoration), and, as may be seen by looking up into it, is constructed as a small spire, strengthened by iron bars. The total effect is quite that of a true spire, but the construction is, strange to say, a dome! (This can be seen from the section in Messrs. Banister Fletcher's History, but is best studied on the spot.) For Wren, who at St. Paul's performed the feat of supporting an apparent dome on a real conical spire, had enough openness of mind to see that the best method of support for such a steeple as St. Bride's is a dome. Accordingly, the belfry stage of St. Bride's steeple is reduced from a square to a circle by means of large squinch-corbels, and on the circle is set a dome of somewhat similar section to the central tower domes of some Armenian churches. On this dome the steeple is built round a central turret, the whole being as ingenious as it is constructionally sound. Still it must be admitted that it does not answer to the accepted definition of a "spire," and is, in fact, a "fanciful emotion," though of an unusually monumental kind.

The steeple of St. Mary-le-Bow (1671-80) is, according to Fergusson, "beyond all doubt the most elegant building of its class erected since the Reformation." "It consists, first, of a plain square tower, above which are four stories. The first is a square belfry, adorned with Ionic pilasters; the next includes the beautiful circular peristyle of twelve Corinthian columns; the third comprehends the smaller lantern and is 38 feet high, which is also the height of the spire." Different authorities give different total heights; it seems to be about 200 feet. The steeple is supported on a dome, as at St. Bride's, but the central stair is hung pendulum-wise in the steeple. "There are, in the leading proportions of this tower and spire, some extraordinary examples in relative heights as compared with widths sesquialterally, which would almost lead one to suppose that, in this respect, our architect was somewhat superstitious" (Gwilt).

In modern times steeples of "free classic" character have been largely used on the belfries of municipal and other public buildings. The only new things recently said on the subject have been the fine steeple of Cardiff Law Courts, and a design recently exhibited for the steeple of a church in Kingsway. Of the latter it may be said, that it would be a good design were it not for the questionable character of some of its details.

TYPE IV. (*b*)—"FLYING SPIRES," OR "CROWNS."

sometimes known as Scottish crowns, though perhaps not with sufficient reason. The construction of this type is shown in fig. 25, wherein, however, the openings giving access through the buttresses have been built up after the removal of the central "cape house," which rendered such openings necessary.

This steeple termination is found along the east coast of Great Britain in parts having trade with the Netherlands. It is strange in these circumstances that no exactly similar types have been discovered abroad, the nearest being that at Oudenarde town hall, not built till 1525; but, the form being not very durable, they may have formerly existed. All the British mediæval examples have been rebuilt at various times.

Commencing at the north in their geographical, not their chronological, order, first comes the steeple of King's College Chapel, Aberdeen, erected for Bishop Elphinstone between 1500 and 1505. Till the nineteenth century this tower contained ten bells (including the heaviest in Scotland). It is not surprising, therefore, that repairs were several times necessary. In 1619 it was to be repaired "with leid quhair leid was, sklaittes quhair sklaittes was, heuine steane quhair heuine steane was," &c. In 1633 it was blown down: "Bot the crown was quicklie afterwards restored in a better forme," "George Thomson, Architect," having his name inscribed on it at this time (date 1634). This is rather a lumpy specimen, a fact due, perhaps, to the "improvements" of Mr. Thomson. It has two arches. It may be as well to explain what is meant by this statement. A flying spire of two arches is one which has two diagonal arch ribs across its base. Each of these arches is formed of two ribs meeting at the summit. As they form a complete arch they cannot be called flying buttresses. They are similar in principle and arrangement to the diagonal ribs of a quadripartite vault. A crown of four arches is one that has two transverse arches in addition to its diagonal ones.

A crown (of which the arch springers still exist) was designed for Dundee parish church with similar details to St. Giles', Edinburgh. A proposal is now on foot to complete it from a design by the late Sir G. G. Scott, which, if it is done, will be of interest as showing a modern English architect's exposition of the crown theme.

Next is Culross. It is uncertain if this crown was ever erected, but the steeple so closely resembles that at St. Michael's Church, Linlithgow, that a similar termination was probably intended. St. Michael's, Linlithgow, erected, according to Messrs. McGibbon and Ross, *c.* 1530 (one of the bells is, however, dated 1490), was the most graceful and elaborate of North British examples. It crowned a very simple tower, with which it was well connected by its rather plain angle buttresses (which still remain). The two arches had an unusual feature in the shape of open tracery parapets on their upper surfaces, running from the angle buttresses up to the central crowning feature—which was, by the way, not like a crown—only Aberdeen has a real crown shape for its finial. The space under the arches was filled by a "cape house" having four ornamentally treated gables, thus remedying the empty appearance notable in some modern crown spires which have only two arches and no cape house. The crown of Linlithgow lasted—unrestored but mutilated—till 1821, when, having become dangerous, it was taken down and the pieces laid aside for re-erection when funds permitted; funds have not yet permitted, and the old fragments seem to have been allowed to disappear.

The Tolbooth crown at Glasgow (126 feet high) is the only ancient one not on the east coast. It has four arches, and, being erected in the seventeenth century, has Scots Renaissance detail, strongly influenced by the Renaissance style of the Low Countries, which, after the Reformation, to a large extent supplanted France as a source of inspiration for Scottish architecture.

St. Giles' steeple in Edinburgh has one of the best known flying spires. First built in *c.* 1500, it was rebuilt about 1648 with the peculiar details of that period, by J. Milne, architect of the Tron parish church, Edinburgh. It has four arches and never had a gabled cape house, though the openings in its buttresses show that the roof was not a flat platform, as at present, and, in fact, a drawing made before its reconstruction shows the spaces between the ribs as being filled in by a leaded roof. Like Linlithgow and Glasgow, there are no buttresses in the belfry stage.

At Pinkie House, near Edinburgh, is a well-head of date *c.* 1613, having a two-arched crown of good Scots Renaissance design, but not being above a belfry it does not properly belong to this essay.

St. Mary the Virgin's Church, Haddington (*c.* 1450), had, judging from its remains, the finest flying spire designed in Scotland. If ever completed, it was destroyed in the English invasion of 1548. There were four arches, as at St. Giles', but the details were purer than St. Giles' now are.

Newcastle-on-Tyne possesses the finest crown (erected *c.* 1475) now in England. Large dimensions and graceful form are its special good qualities. Unlike the mediæval Scottish flying spires, this one has the extrados of its two lofty arches formed as ogee-curved instead of straight lines, thus rather recalling the English market crosses (*e.g.* Chichester). The steeplet supported by the arches is square, and is traceried and pinnacled in a very light and appropriate manner. A curious detail is the use of flamboyant "fish-bladder"-shaped pieces of tracery at the haunches of the crossing arches. It has no cape house, but a slender pinnacle in the centre of each side rises above the parapet and, to a certain extent, fills the gap.

St. Mary-le-Bow steeple, London, was destroyed in the Great Fire of 1666. Judging from old views, it appears to have been a fine and lofty steeple, having a flying spire of two arches, and buttresses in the belfry stage similarly treated to those at Aberdeen. That it was a noteworthy piece of work we may infer from the effort put forth by Wren to give it a worthy successor.

St. Dunstan's-in-the-East is the only seventeenth-century flying spire in England. Erected in 1698 from designs by Wren, it is only tolerably mediæval in detail; in fact it is truly "Gothic," for it is original, not imitative, though original in rather a barbarous way. The heights of its parts are:—Belfry, 32 feet; parapet, 8 feet 3 inches; crown, 20 feet 10 inches; spire finial, 33 feet. Two well-proportioned (but unmoulded) arches, with curved extrados, intersect and support an obelisk on a little composition of intakes rather similar to those on the flying buttresses of St. Paul's. An excellent view of this steeple is obtainable from the little street passing the east end of St. Dunstan's Church, but it also looks well from a distance.

In the last fifty years several flying spires have been designed, chiefly in Scotland. Of these by far the finest is the central steeple of the Coats' Memorial Baptist Church in Paisley, by Hippolyte J. Blanc, Esq., R.S.A. Though founded on St. Giles', it is purified in detail, and possesses a good deal of originality. It has four arches supporting a lofty pinnacle. The Wallace Monument at Causeway-head, by the late J. T. Rochhead, has a notable crown, but not on a belfry stage. It is heavy in effect—no doubt intentionally so, as part of a memorial. The crown of Stevenson Memorial U. F. Church, Glasgow, by the late J. J. Stevenson, is illustrated by a perspective sketch hung in the South Kensington Museum. Unfortunately it crowns a rather stumpy tower. The disconnection between its belfry buttresses and arch buttresses is unpleasant (though found at Aberdeen), and the space under the arches is rather empty, still it is a good example of its type.

There are others, but none calling for special notice here. Modern crowns have sometimes steel tie-bars to take the thrusts of their arches. In such a position the bars rust, are neglected, and become dangerous. The proper way is either to strengthen the tower, or found the crown on a reinforced concrete frame, placed so as to tie together the whole wall-head of the tower.

TYPE IV. (*c*).

This is a small but interesting class, distinguished from ordinary bell gablets by the possession of a belfry stage or chamber which is roofed with a small spire. The chancel arch is

made broad on the soffit, in order to carry such a steeplet, the belfry stage being sometimes corbelled out eastwards and westwards to increase its area. Fig. 9 shows Baginton Church, Warwickshire. Fig. 10 is its plan; and fig. 12 is the plan of the chancel arch in Midcalder Parish Church, Midlothian. This latter is interesting because its specification (of date 1542) is still preserved. The part referring to the steeple (as it calls it) is as follows :—

"And at the west end of the said queir forgane the south west buttreis to rais ane substantious wall of rouch werk sevin fut of breid fra ilk sydewall with ane brace [arch] to be raisit tharein als heych as it may be had to serue the west gavil of the queir with hewin oggeruris [voussoirs]. And abone the said brace in the forsaid west gavill sulyeis [sills] to be laid and ane stepil to be raisit tharepoun VIIJ futis of breid and lenth or [as an alternative] VJ futis braid and XIJ futis lenth within the sidwallis of the said stepill quhilk sidwallis salbe of VJ futis of heich abone the queir thak [roof covering] at all partys with lychtis at all partis for the sound of the bellis in the said stepill to be persit for the orlage [clock] hand and bell in place maist ganand and convenient tharto. And in the northe angell betuix the foresaid wall vnder the grete brace and north wall of the kirk syd to rais ane commodious turngreis [turret stair] to serue the rud loft of the said kirk and stepill foresaid als esaly as it may be had."

The present "stepill" is of nineteenth-century date, but it is still served by the "commodious turngreis."

St. Gabriel Parish Church in Normandy has a similar arrangement, but with a low segmental chancel arch, the soffit of which is ribbed like part of a mediæval barrel vault or bridge. At Largo [fig. 11], Fifeshire, the steeple is supported partly by the chancel arch and partly by a continuous barrel vault, which—*more Scotorum*—extends the whole length of the chancel. This type is rather well suited to small churches and chapels, but has not been much used in modern times; care has to be taken that the abutments of the chancel arch are of sufficient strength.

BRICK SPIRES AND BELFRY STAGES.

Brick was extensively used for steeples in North-East Europe and Italy during the Middle Ages. But brick belfry stages were very seldom covered by brick spires. There are some examples in Italy, for the most part very plain, *e.g.* the Broletto at Monza, and some in North Europe, *e.g.* St. Vincent at Breslau, which has two octagonal brick stages between the tower and its plain octagonal brick spire. Though not quite pertinent to this essay, the brick belfry stage of St. Elisabeth at Breslau is shown in fig. 13. It has no spire, even of wood, but would look very well with a brick one. The north-west steeple of St. Nizier at Lyons has a very late brick spire with stone dressings. In Essex are some good brick belfries; and modern brick spires with stone dressings are comparatively common in London and other districts where stone-coloured yellow bricks are made. These are usually copies of stone spires, the brick being used as a cheap substitute for stone. Hanwell Church, by Sir G. G. Scott, is a typical specimen of this class of spire. There is no reason why spires should not be logically built of brickwork. One can imagine that a spire of different toned bricks, if designed by the author of Lincoln Girls' High School—or, in fact, by any of those English architects who are successfully experimenting with brick textures—might be quite charming.*

CONSTRUCTION, MATERIALS, ETC.

Spires and belfry stages may be classified for construction into the same four types (see p. 616) as from the architectural point of view. The sub-divisions, however, depend not on pinnacles or parapets, but on the form of their squinches. This transition from one form of plan to another can be managed in the following six ways. First by throwing an arch across each angle of the lower plan, *e.g.* Salisbury and St. Michael's, Coventry (where the space behind the arch is very ingeniously filled with a piece of vaulting)—this arrangement sets up

* The campanile of Westminster Roman Catholic Cathedral contains very interesting brick squinches, three of arched form and one (carrying a stair turret) corbelled.

a thrust in a dangerous position. Second, by a series of superimposed arches, each projecting over and supported by the one beneath it (*e.g.* St. Mary's, Oxford)—this has less thrust than the first method. Thirdly, by the French form, or "trompe," similar to the last but with the arch blocks radiating horizontally as well as vertically (*e.g.* St. Jacques at Liège, and many spires in France)—this is a good method, but not so sound as, fourthly, a corbel or pendentive [Witney, fig. 16]. This is a good way where a level wall-head is desired, but the pinnacles and solid filling behind the corbel are entirely unnecessary. None of the upper courses of the spire have pinnacles to hold down their tails, why then should these few rapidly shortening courses at the bottom of the spire be treated differently? It may be said that otherwise the weight of the spire would thrust these lower courses off the corner of the belfry stage, but this is impossible, as each course is relieved of a certain amount of weight by the walls at each of its ends, so that but little is left for the lowest course to bear. This brings us to the fifth method [fig. 35], which is simply to continue the spire until it meets the walls of the belfry stage. Sixthly, lintels may be used [*e.g.* fig. 33]. This method is only applicable in stone to small spires where each lintel may be supported by shorter receding lintels beneath it. Nowadays steel beams may be used, but this is not a permanent mode of construction. The best way (in fact perhaps the best way of all) is to support the spire on a reinforced concrete frame.

The elaborate pinnacles and flying buttresses found at the angles of some Gothic spires are wholly useless (though justifiable for their beauty), for a spire has no thrust if it be well built either of brick, rubble, or freestone in good mortar. If it had a thrust, that thrust would be equal on each of its faces and would make short work of the dormer windows which usually occupy the cardinal faces and whose purpose is to relieve the belfry windows from dead load, not to resist thrusts. This was well known in France where even early spires have light and frankly decorative pinnacles.

Of freestone, no spire of ordinary dimensions need have a greater thickness than 12 inches at the base, tapering to 6 inches at the top; nor should it in any circumstances be less than 5 inches if of uniform thickness. The courses near the top should be connected by stone or slate dowels, but no metal should be used for this.

Of brick, spires may be $4\frac{1}{2}$ inches thick for 15 feet at the top; 9 inches for 50 feet below that, and increase $4\frac{1}{2}$ inches at every 30 feet. A spire 100 feet high will have 10 feet solid at the top, be $4\frac{1}{2}$ inches thick for 15 feet, 9 inches for 50 feet, and 14 inches for the remaining 25 feet. But no part should be less than 9 inches thick, if built in common lime mortar.

The beds of stone spire courses should be horizontal, and the stone must be finely hewn inside, so that the masons may make the bed joints of even thickness throughout their depths, and may make each course of the full depth specified. Externally the stonework should be hewn or polished as smoothly as possible.

Bricks should be laid in "Scottish bond"—three courses of stretchers to every course of headers—except where $4\frac{1}{2}$ inches thick, when they will be in "stretching bond." Their bed joints will of course be at right-angles to the slope of the spire. When a brick spire is built with close joints and inserted "pointing," as in ordinary facing brickwork, the "pointing" is liable to weather out, thus admitting damp into the joints. The proper way is to build in cement mortar and make all joints not less than $\frac{3}{4}$ inch thick, then, if the joints are pointed as the work is carried up, and if the bricks are thoroughly wetted before building, the joints will outlast the bricks and the spire be practically monolithic. The top 10 feet of every spire should be built solid, a copper or bell-metal tube or rod should pass through the solid part and have the end of the lightning conductor bolted to its lower extremity, its upper end being similarly connected to the finial or weathercock.

Chains and Ties.—Many spires were tied by iron rods and chains embedded in their thickness to prevent thrust. This is necessary in openwork spires (such as Freiburg, where every horizontal stone bar is in two courses with an iron rod embedded between them), but is unnecessary elsewhere and is always dangerous—*e.g.* the spire of St. Aldate's, Oxford, had to be taken down because a tie-bar encircling its base had oxidised and burst the stonework. Where ties are necessary they should take the form of hard stone dowels or cubes connecting two courses of stone arranged to break bond.

Pendulums.—A timber pendulum suspended from the solid apex of the spire was sometimes used by Wren and his successors. Such a pendulum is of no constructional use except in that it increases the weight of the upper part of the spire, an object better attained by making more of the top solid. A timber frame, or permanent centering, connected to the spire at numerous points, is doubtless useful in a weak spire, but such an arrangement should not be relied on, the spire being made sufficiently strong to dispense with such assistance; although reinforced concrete floors, at various heights, may be a quite legitimate form of stiffening.

Materials.—These should all be of the strongest and soundest kind obtainable. Stone should be hard and impervious. A spire of granite or Portland stone 6 inches thick will endure longer than one of soft inferior stone 18 inches thick. Bricks should be well burnt and non-absorbent—fineness and evenness of texture are minor considerations. Mortar should be composed of one part Portland cement (to meet the British Standard Specification), to two parts clean sharp sand, or, if expense is an object, hydraulic lime of a good strong kind may be used. The importance of good mortar was early realised, and curious experiments were made to increase its strength and adhesive power: for example, when Louth steeple was repaired in 1627 we read in the "Building Accounts":—

> "Item paid William Harrison for lyme about the steeple IIs. VId.
> Item paid for Vlb. of glue IIs.
> Item paid for Vlb. of allom to put in the mortar IIs. VId.
> Item paid for egge that the mason had about the mortar, Vs. VIId.
> Item paid for strong wort that the mason had for his mortar, Xs. VId."

Despite these precautions the top was blown off in a tempest only eight years afterwards. Steel bars or tie rods should on no account be used unless they are properly encased in concrete, which should be of the composition and quality recommended in the Report of the Royal Institute of British Architects.

Vitruvius' dictum is: "Economy consists in an able and proper application of the means afforded, according to the ability of the employer and the situation chosen. In this respect the architect is to avoid the use of materials which are not easily procured and prepared on the site." And we shall always be well advised to make use of local material whenever possible. Rubble (especially slaty rubble, but also flints) in cement, bricks, and reinforced concrete might all be used with good effect in some situations. Concrete might be covered with "Carrara ware" or with split flints, and bricks might be arranged in patterns or might be glazed or coloured—though no one has yet succeeded in making glazed bricks really interesting.

Calculations.—It is not usual to calculate scientifically the dimensions of a steeple, as past experience has provided precedents applicable to almost every case. But in designing a spire in a new material or of unusual dimensions, the following calculations (all of which are of a simple character) will be desirable. The walls of the belfry stage must be strong and heavy enough to carry the dead load of the spire and to resist overturning by the wind—though, as a matter of fact, the latter precaution is only necessary where spire and belfry are in one monolithic mass of reinforced concrete or brickwork. Its angles must be able to resist the thrust of the belfry window arches, and the thrusts of the squinch arches, if such are used, must be accounted for.

Pinnacles must be calculated to resist overturning by wind pressure.

The sides of the spire must resist the distributed load of wind pressure on their surfaces, and be able to carry the dead load of the upper parts of the spire. They should be heavy enough to prevent risk of the whole spire being overturned by wind pressure (even with monolithic construction this is desirable). And finally the top of the spire should be able to withstand the dangerous stresses set up by wind pressure on the side of a jammed weathercock.

SOME DETAILS.

Vanes and Weathercocks.—These are very ancient ornaments for steeples. Between 961 and 971 Wulstan, the Saxon, wrote of a vane at Winchester Cathedral:—"A weathercock caught the morning sun and filled the traveller with amazement, the golden weathercock lording it over the city; up there he stands over the heads of the men of Winchester, and up in mid-air seems nobly to rule the western world; in the claw is the sceptre of command, and, like the all-vigilant eye of the ruler, it turns every way." At Louth in 1515 "Thomas Taylor, draper, gave the weathercock, which was bought in York of a great baron and made at Lincoln." Later, "the weathercock was set upon the broach of Holyrood Eve and hallowed with many priests there present, and all the [bells] ringing, and also much people there and all to the pleasure of God. Amen." The early weathercocks were of wrought-iron, but in 1444 Bishop Kemp placed a copper vane 4 feet long by 3 feet 6 inches high on St. Paul's. They were usually gilt: 20th October 1627—the Burgh of Glasgow spent £30 on "gilting the cok and thanes and cullouring of the same yallow, with the glob and standart and stanes about the stepill heid" of the Tolbooth. In 1606 the brazen weathercock of St. Nicholas' Church, Aberdeen, was sent to Flanders to be "owergilt." The vanes on Wren's London churches are particularly well-proportioned and of many different patterns, *e.g.* St. Michael, Queenhithe, had a ship, the hold of which could contain a bushel of corn; St. Peter's, Cornhill, has a key 8 feet 8 inches long; St. Mary-le-Bow a dragon 9 feet long. A system of proportions for vanes is given in Price's *British Carpenter*, 1753. *Vanes* are placed on a metal standard having an orb, then a cross, and finally the vane, or cock at the top. This standard is secured to the top of a metal rod or tube passing through the solid part of the spire apex. They are now made to run on ball-bearings and to respond to the least puff of wind.

Crockets are found on spires as early as 1215 in France, but in Britain and Germany only after 1300. At first they were set very close together, subsequently they were placed farther apart and simplified in detail (especially in France). In some spires the crockets are placed closer at the apex than near the base (the best way); on others they are placed farther apart as they ascend. In some their size increases, in others decreases, with their height, while in a few their graduated dimensions give an entasis-like curve. Apart from their decorative effect they serve a useful purpose as permanent ladders for steeple-jacks.

Surface decoration may take the form of imitation roofing-tile patterns, as in Normandy (in Ruskin's view the best form for the purpose); may be tracery panelling, as in St. Stephen's at Vienna; or (in small spires) any quite unobtrusive form of texture-giving pattern, such as diaper or lattice work. Moulded bricks are used in some Italian spires.

Garlands should not divide the spire into equal portions, should not be narrower than half the length of each of their portions nor broader than that length. Salisbury, Chichester, and King's Sutton are all pleasing specimens. Garlands are rarely found out of England.

Entasis.—Entasis, to correct the optical illusion which causes a straight-line sided spire to appear as if its sides were slightly concave, was not used till after the thirteenth century except in a few early French spires. It is, however, a very desirable improvement. Entasis should not exceed 1 inch for every 60 feet of length, and should be at its maximum at one-third

of the height. An entasis can be drawn geometrically (see *The Builder*, 1848), but can quite conveniently be drawn free-hand or by means of a bent lath. In any case it should be drawn full-size and the spire built to the line of form-pieces made from the drawing.

Some mediæval spires have a kind of entasis produced by straight lines. In Scotland these lines change their angle at each string-course. In some English spires these lines were produced by a straight rod fixed to the top of a centre pole which was slightly lowered every day, thus producing a sort of parabolic curve—a day's work in the narrow upper part of the spire being, of course, higher than near the base.

Ventilation and Lighting.—It is important that spires should be well ventilated. Stone and brick, like timber, decay fastest when neither wet nor dry but damp. As stone and brick are absorbent, it follows that the interior of a stone or brick spire will be damp unless a current of air passes through it. To ensure this current, a tier of dormers at the base and a row of small spire-lights near the apex, will be required. These will also provide light for repairs and for the operation of attaching the lightning conductor to the metal rod which passes through the solid top.

Scaffolding.—This may be either Scottish, *i.e.* internal for the belfry and external for the spire, constructed of deals bolted together, and provided with a small jib crane to hoist materials; English, external throughout its height, made of larch poles and putlogs lashed together, materials being raised by a hoist; or, what is an excellent plan, external throughout but built of bolted deals, and with a hoist to raise materials. The Scottish method was formerly used on the Continent. It is shown on drawings by Jan van Eyk, and at Cologne the cranes or derricks remained till last century.

Protection from lightning was sought in the Middle Ages by placing relics of saints in the finials of spires. Though theoretically a good method, practical considerations have led to its supersession by the use of lightning conductors. A specification for a conductor might be as follows :—The conductor to be of 90 per cent. copper rod, weighing 6 oz. per lineal foot (rod is better than tape because it cannot be bent round projections—a conductor should have few bends and no angles). The "earth" to be a Hedges' patent earth, with all the proper connections (this is the most satisfactory way of forming the "earth"). The rod to be fixed to the steeple by strong copper clips (or insulated, if desired—opinions differ as to this; bottle necks are said to form cheap but efficient insulators). The course of the conductor to be as follows :—From the under-side of the solid apex of the spire down the inside to the first spire-light, thence outside and down the south-west side of the steeple (the wettest side) to the "earth." It is to be connected by branches to the bells, the leaded floor of the belfry chamber (but that should be a concrete floor covered with asphalte) and any other metals within 20 feet of its course. All joints to be electrically perfect. The rod to pass all projections with a gradual bend.

At the summit lightning conductors finish with one or more prickets above the vane. Some authorities prefer galvanised iron as a metal for conductors, but, as churches are much neglected in matters of upkeep, and as iron oxidises, copper is preferable for such work.

Stair Turrets.—The earliest stair turrets in this country stop short at the belfry stage and are very unassuming. At a later date they were more emphasised and carried up to the parapet level, but never so prominently in steeples with spires as in spireless towers (such as New College, Oxford).

In France the late steeples have frequently plain circular turrets like telescopes (*e.g.* St. Etienne du Mont, Paris), but at Chartres Cathedral (north-west tower) the stair turret is one of the best and most striking features of the composition. Where steeples are built in receding stages, the stair turret only shows externally in its upper part, *e.g.* Bâle Cathedral.

Oblong Belfries.—The problem of fitting an octagonal spire to an oblong belfry is met in several ways: by using a spire whose sides or angles are symmetrically unequal (*e.g.* St. Nizier at Lyons, St. Michael's, Cupar-Fife); by having a wider parapet on two sides than on the remainder (St. Monan's, Fife); and by boldly exhibiting external galleries on the short sides—*e.g.* Coats' Memorial Church, Paisley).

Finials to stone spires are sometimes of stone richly carved (especially in late Continental work, where they are sometimes too large and out of scale) but more often nowadays of metal, forming a cap to the stonework and a base to the vane, orb, and cross.

Pinnacles in England are usually solid and substantial, in France are hollow (their roofs being built as small spires) and of very elegant construction. The thirteenth-century Norman pinnacles are built like fairy palaces, one can almost imagine them to be the realm whence:

"Oberon him sport to make
(Their rest when wearied mortals take
And none but only fairies wake)
Descendeth for his pleasure."

Pinnacles may be of any geometrical plan, all shapes from circular to triangular have been tried, but the octagon, hexagon, and pentagon are the most usual, and on the whole the most satisfactory, forms of plan.

Belfry floors should always be fire-proof, unless there is a fire-proof floor lower in the tower; but a circular central opening with an iron cover must be left, through which bells may be raised.

Acoustics of belfries are not much attended to, but mediæval bell-chambers always had a wood ceiling to prevent sound being lost in the spire interior, and at Sandon Church in Essex the belfry chamber is covered by a brick dome, the acoustic effect of which is said to be excellent.

Louvre boards should be either pent-house roofs covered with slates or tiles [the Continental method, fig. 14], or be slabs of stone slate (as in Oxfordshire, *e.g.* Adderbury). Ordinary louvre boards look mean and are not durable. No louvre boards are quite weatherproof, and much can be said for omitting them and making the belfry floor waterproof.

Bell Carriages.—The finest of these are the beffrois of France [see fig. 26, which is a comparatively modest example]. Those in Britain are simply strong lattice beams often so unskilfully fitted to the tower as to give cause for thankfulness that British belfry stages are more substantial, for their size, than those of France. (*Beffroi* is a term of military architecture and has no connection with *belfry*, the French for which is *clocher*.) The bell carriage should be trussed horizontally as well as vertically, should rest on a solid intake, and should at no point enter the tower walls. There is an interesting example of a modern steel bell carriage in the south-west tower of Beverley Minster.

Bells.—The design and construction of bells, though of interest, does not affect our subject. Their use does. Mediæval bells were at first swung to and fro. When a desire for bell music arose in the sixteenth century, it was met on the Continent by the introduction of carillons, *i.e.* small fixed bells struck by hammers, the large bells being rung separately as before. In England, the large bells were themselves tuned and rung to music, and by means of wheels regularly "rung." This ringing exerted a great strain on the bells and "in England most of the really ancient bells have been recast during the last 200 years to fit them for change ringing."—(F. C. Eeles.) It also strains the belfries and should be taken into account in their design. Opinions differ as to the precise relationship to each other in which bells should be hung, but this is a matter of no importance so long as they cannot all swing in the same direction at the same time, and are hung in a properly designed bell carriage.

With regard to the consecration of bells, the Council of Cologne ordained as follows:—"Let the bells be blessed, as the trumpets of the Church militant, by which the people are

assembled to hear the Word of God; the clergy to announce His mercy by day, and His truth in their nocturnal vigils: that by their sound the faithful may be invited to prayers, and that the spirit of devotion in them may be increased. The Fathers have also maintained that demons, affrighted by the sound of bells calling Christians to prayers, would flee away; and when they fled, the persons of the faithful would be secure: that the destruction of lightnings and whirlwinds would be averted, and the spirits of the storm defeated." Although they have enjoyed a long period of popularity as "the artillery of the Church," there were two periods when it seemed as if no more bell towers would be required: first, immediately after the Reformation, when according to a Roman Catholic sermon, "the pretended Reformation which has newly come up from Hell" raged not only against the Church but against her "inanimate instruments," the bells which called her people together. The second period was during the most classic era of the Renaissance:—In 1741 Thiers wrote: "Le petit peuple et la canaille accourent en foule de toutes parts à l'église, non pour prier, mais pour sonner. Car il faut remarquer en passant que les gens les plus grossiers sont ceux qui aiment davantage les cloches et le son des cloches. Les Grecs, qui sont des peuples fort polis, avaient peu de cloches. Les Italiens, qui se piquent de spiritualité et de délicatesse, ont aussi peu des cloches. Les Allemands et les Flamands, au contraire, en ont de grosses et en grand nombre; cela vient de leur peu de politesse. Les paisans, les gens de basse condition, les enfans, les foux, les sourds et muets, aiment beaucoup à sonner les cloches, ou à les entendre sonner. Les personnes spirituelles n'ont pas de penchant pour cela. Le son des cloches les importune, les incommode, leur fait mal à la tête, les étourdit."

"Thiers n'aime pas les cloches, sa boutade le dit assez," is Viollet-le-Duc's comment on this outburst.

Clocks should not be placed in bell towers; but if so used must be placed above the bells, as, the lower bells are hung, the less is the vibration set up by them.

CONCLUSION.

"There are five-and-thirty ways of composing tribal lays, and every single one of them is right," sings Kipling; and the remark is equally true of steeples, especially those of European mediæval type. Sir William Chambers laid down rules, founded on those of the ancients, by means of which splendid and well-proportioned edifices could be designed (or rather compiled) by the proverbial "meanest intelligence"; but he did not attempt to treat of steeples in this way. Nevertheless, certain steeples have been more admired by architects than others. Some are felt to be really well-proportioned by art—not "just growed," Topsy-like. It is, then, possible by the study of published opinions, and of the buildings themselves, their effects and the means producing these effects, to arrive at some general conclusions, showing the limits wherein success is most easily, if therefore ingloriously, attained.

The belfry stage must be dominant and express its purpose, for it is the steeple's *raison d'être*.

The dominant belfry must be supported by a strongly but simply detailed tower; and should be crowned by a strong horizontal line, such as a parapet or heavy cornice.

The spire should spring from the belfry with no hesitation, and must trust for effect to purity of sky-line and good proportion.

If the total height be four, the spire should be not less than one nor much more than two. The belfry stage should be less than one but not less than half.

The tower may be of any reasonable proportion, so long as it is neither too squat, nor too like a factory chimney. If in several stages, a pleasing effect is produced by making each stage higher in proportion to its breadth than that whereon it stands. Buttresses should

neither crush the tower nor look weak. By intakes or batter an effect of entasis must be given to any tower that carries a spire.

Lastly, this essay cannot claim to be a complete work on spire and belfry stage design and construction. It is rather a rough sketch survey of the ground requiring to be covered by such a work. The title limited consideration to spires which surmount belfry stages, and belfry stages surmounted by spires of stone and brick. But to produce a really finished description and history of spires it would be necessary to study the spire idea wherever occurring from China to Peru, in whatever position, and of whatever material. It would also be necessary to study on the spot all the principal and many of the lesser Continental steeples and to collect a multitude of illustrations.

Spire chronology would have to be restudied, and spires in fiction (*e.g.* Ibsen's *Master Builder*), in legend (according to Viollet-le-Duc every great mediæval structure has its legend —such as that of the oxen at Laon), and in superstition, would also repay consideration.

No such work has yet been published, and the information derivable from published works is so fragmentary that it does not seem necessary to give a full bibliography here. Wickes' *Illustrations of the Spires and Towers of the Mediæval Churches of England*, 1853-59, together with Johnson's *Reliques of Ancient English Architecture*, and the chapter on spires in Bond's *Gothic Architecture in England*, give a good idea of mediæval spires and belfries in England. Most of the Scottish steeples are shown (not always accurately detailed) in the works of MacGibbon and Ross, and Billings.

On the Continent examples may be culled from the monumental works published by the Governments of France and Spain, and such publications as the *Historische Stadtebilder* of C. Gurlitt. The Continental Sketch-books of Nesfield and Johnson contain good illustrations but few dates.

Information as to mediæval methods can be found in the pages of Viollet-le-Duc, while a chronology of German spires by W. H. Brewer appeared in *The Builder* in 1865.

This essay attempts to supply a summary of what has already been published, together with a few new ideas which have occurred to the essayist while studying the subject in detail.

It would have been desirable, had circumstances permitted, to include a model specification for a steeple, and a specimen set of statical calculations for a simple spire and belfry. The illustrations might also have been redrawn to a reduced size so that more could have been included in the space available. In fact the work would have been better done had the essayist given a wider berth to his motto!

DEFINITIONS.

Belfry Stage.—A structure intended to contain bells and to protect their carriage from the weather.

Bell Carriage.—A trussed timber or steel cage by means of which bells are hung in a belfry stage:

Hamlet: "What call you the carriages?"
Osric: "The carriages, sir, are the hangers."

Broach (from French *broche*, a spit).—English mediæval name for a spire. By modern writers it has been applied to spires with dripping eaves, but in the Louth building accounts it is always used to distinguish that spire (which has a parapet) from the "steeple" on which it was built. It has also been applied to a certain form of squinch-cover, but without sufficient reason.

Dormer Window or Spire Light.—An opening into a spire. In this essay dormer window means a pedimented window whose sill is immediately above the tower wall-head. *Spire light* means an opening of any shape separated by some distance from the base of the spire.

Garland.—An ornamental band round a spire. In this essay it is taken to mean a band of tracery or carving laid on the spire, as distinguished from a string-course, or a parapet, or gallery.

Spire.—An acutely pointed, pyramidal or conical structure, frequently used to form the roof of a belfry stage, in which position it is referred to in this essay. The term "spire" has in the last two centuries quite superseded the mediæval English forms *broach* (from French *broche*, a spit) and *shaft*. It has a respectable antiquity, being referred to by William of Worcester: "Altitudo de le *spere*" (St. Mary Redcliffe Church, Bristol), "sicut modo fracta continet 200 pedes," "Turris et spera sive le

broche"; and in the records of St. Alphage's Church, London Wall, is a statement that "In the 22nd year of K. Henry the Sixth, uppon Candlemas Eve, in the afternoone, this steeple was fired by lightning, about the very middest of the *spire* or shaft." Spire seems to be the same word as spear, and it is a curious fact that in other European languages the words meaning spire are also capable of application in a non-technical way; *e.g.* French *fleche*, an arrow, *aiguille*, a needle; German *spitze*, a point; Spanish *aguja*, a needle.

Squinch (scoinson, scuncheon, skunchion, sconce).—The mediæval term for a corner (scuntion is still used in Scotland for the corners of a rough opening in a wall, *e.g.* the internal corners of a window jamb). In this essay it means the constructional expedient by which a tower of any geometrical plan is enabled to carry a spire of a different plan.

Squinch-cover.—The weathering or stone-work which protects and covers a squinch. It was included in the mediæval word "squinch," but under the name of "broach" has long been named separately. It may remain separate but should *not* be called a broach.

Steeple.—"A steeple which is a great buildinge made of stone or other mattier and is fourmed broad and foure square beneath and upwards small and sharpe as it were ye flame of fire which endeth sharp."—Bossewell (1572).

"*A.*—A tall ornamental construction surmounting a tower and composed usually of a series of features superimposed and diminished upward, as the steeples of Sir Christopher Wren's churches, in contradistinction to a spire, which is properly a tall pyramid uninterrupted by stories or stages.

"*B.*—A tower terminated by a steeple in case A or by a spire, the term covering the whole structure, from the ground up."—R. Sturgis (1902).

Steeple is also said to mean any bell tower; and a tower as distinguished from the spire it carries.

The other technical terms in the essay are used in their ordinary dictionary meanings.

ILLUSTRATIONS.

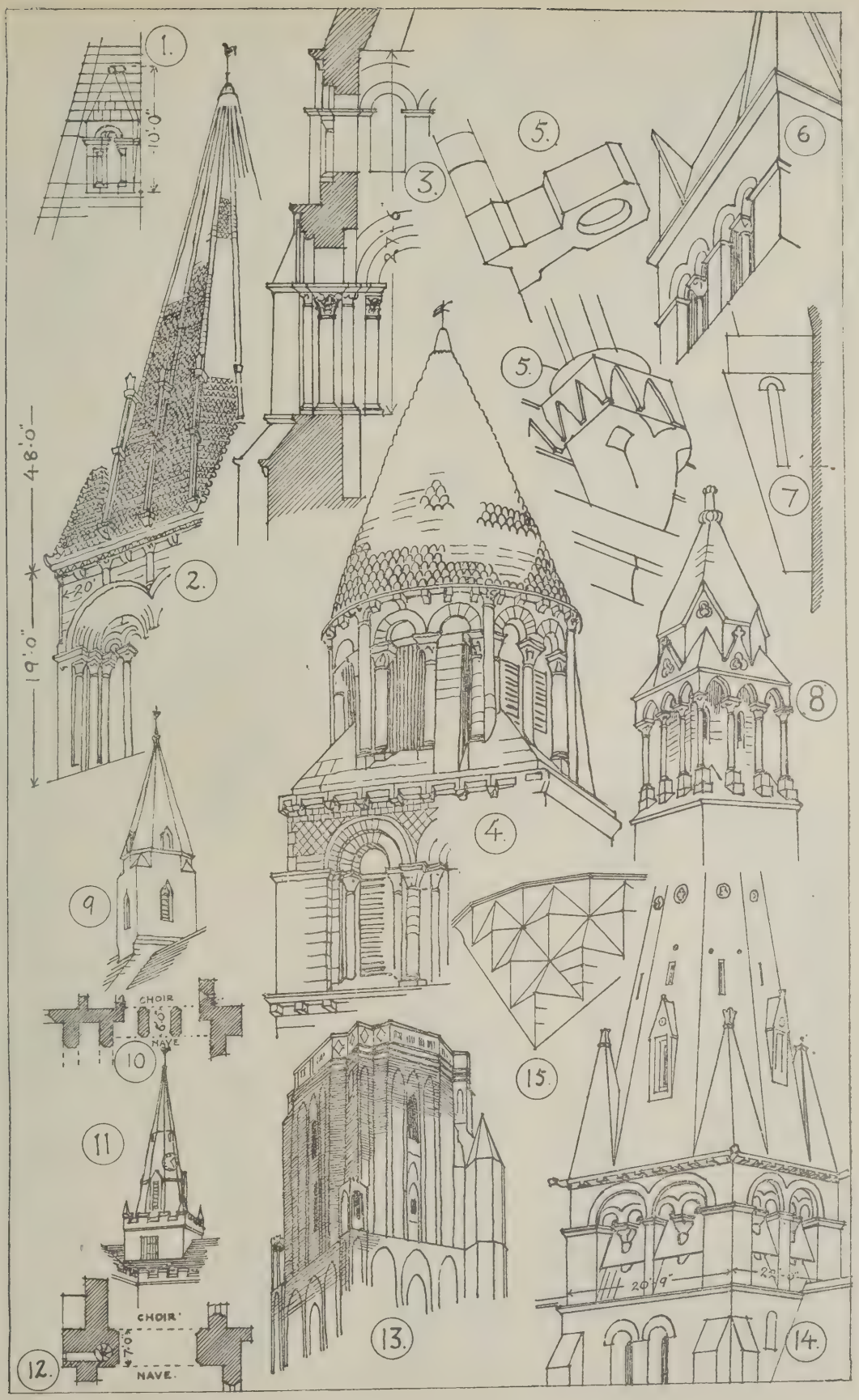
These are diagrammatic, not pictorial, and purposely chosen from examples of minor importance (except the modern ones) in order to illustrate clearly particular points.

Sheet I.

Fig. 1. Spire light at Cormery Abbey Church.
,, 2. Spire at St. Leu d'Esserent.
,, 3. Belfry stage at Cormery.
,, 4. Steeple of Notre Dame at Poitiers.
,, 5. Detail of detached stone bar ornaments at St. Leu.
,, 6. St. Martin d'Ainay, Lyons.
,, 7. Squinch-corbel at Beaulieu Abbey.
,, 8. Bell turret at Lausanne.
,, 9. Chancel-arch steeple at Baginton, Warwickshire.
,, 10. Chancel-arch steeple at Baginton. Plan.
,, 11. Chancel-arch steeple at Largo, Fifeshire.
,, 12. Chancel-arch steeple at Midcalder. Plan.
,, 13. Belfry at St. Elisabeth's, Breslau.
,, 14. Central spire at Plessis le Charmant.
,, 15. Squinch-cover on tomb of Sultan Martesseb, Cairo.

Sheet II.

Fig. 16. Diagonal section, St. Mary's, Witney, Oxon.
,, 17. Section of dormer, St. Mary's, Witney, Oxon.
,, 18, 19, 20. German spire forms.
,, 21. Plan of pinnacle, St. Mary's, Oxford.
,, 22. Logie Parish Church, Stirlingshire.
,, 23. Bloxham (Oxon); detail of pinnacle.
,, 24. St. Monan's, Fife.
,, 25. King's College, Aberdeen; crown.
,, 26. Beffroi, Beaulieu Abbey.
,, 27. St. Antholin's, Budge Row, London.
,, 28. St. Pierre, Caen.
,, 29. Lansdowne U. F. Church, Glasgow.
,, 30. Markinch, Fifeshire.
,, 31. All Saints', North Street, York.
,, 32. St. Michael's, Croydon.
,, 33. Dunfermline Abbey.
,, 34. Fenny Compton.
,, 35. U. F. Church, Bridge of Allan, N.B.
,, 36. Clyde Trust Buildings, Glasgow. Not built.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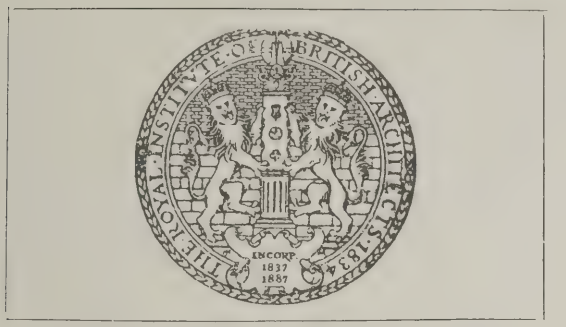


9 Conduit Street, London, W., 29*th July* 1911.

CHRONICLE.

The Annual Dinner.

The Annual Dinner of the Institute took place on Tuesday, 4th July, in the fine hall of the Fishmongers' Company, London Bridge, which had been kindly placed at the Institute's disposal for the occasion. Following the much-appreciated precedent set at last year's Dinner, the festival was graced by the presence of several ladies. The President, Mr. Leonard Stokes, presided, and seated on his right were the Lord Mayor, Lady Emerson, Sir Lawrence Alma-Tadema, the Chairman of the London County Council, the Presidents of the Royal College of Surgeons, the Royal Institute of Painters in Water-Colours, the Royal Society of Medicine, the Royal Society of British Sculptors, the Surveyors' Institution, and the Architectural Association, Alderman Sir Charles Johnston, Sir Ernest George, the Dean of St. Paul's, and Judge Rentoul. On the President's left were Lord Saye and Sele, Mrs. Leonard Stokes, the Archbishop of Westminster, the Presidents of the Royal Academy, the Royal College of Physicians, and the Royal Society of Painter-Etchers and Engravers, the Principal of the University of London, Sir Henry Buckingham, Sir Wm. Emerson, the Hon. John Wanamaker, the Prime Warden of the Fishmongers' Company, Sir Aston Webb, Sir Thomas Brock, and Mr. Philip Morrell, M.P. An invitation had been accepted by Mr. John Burns, President of the Local Government Board, but a message was received from him at the last moment stating that he was prevented from coming by Parliamentary duties. The following is a complete list of the guests, numbering 158 all told :—

Mr. John G. Abraham, Mr. John W. Abraham, Mrs. John W. Abraham, Mr. Maurice B. Adams [*F.*], Sir Lawrence Alma-Tadema, O.M., R.A. [*H.F.*], Mr. L. A. Atherley-Jones, K.C., M.P., Mr. Maxwell Ayrton [*A.*], Sir Thomas Barlow, Bart., K.C.V.O. (President of the Royal College of Physicians), Mr. Douglas C. Bartley, Mr. Walter C. Beetles, Mr. G. E. Bond (President of the Society of Architects), Mr. C. W. Bowles, Sir Thomas Brock, K.C.B., R.A. [*H.A.*], Sir Henry Buckingham (Sheriff of London), Mr. John J. Burnet, LL.D., A.R.S.A. [*F.*], Sir Edward H. Busk, M.A. (Prime Warden of the Fishmongers' Company), Mr. C. MacArthur Butler (Secretary of the Society of Architects), Mr. J. Dixon Butler [*F.*], Sir Henry T. Butlin, Bart. (President of the Royal College of Surgeons), Mr. Henry C. Charlewood [*F.*] (President of the Northern Architectural Association), Mr. Christian Christensen, Mr. Edgar F. Church, Mr. Harold E. Church [*A.*], Mr. H. Chatfeild Clarke [*F.*], Mr. Max Clarke [*F.*], Mr. T. Costigan (Secretary of the London Master Builders' Association), Mr. S. Forrest Cowell (Secretary of the Royal College of Surgeons), Mr. J. D. Crace, F.S.A. [*H.A.*], Mrs. Crace, Mr. Richard Creed [*F.*], Mr. Richard Creed, jun., Miss Creed, Mr. T. Harrison Dakin, Dr. W. Morriston Davies, Mr. T. Raffles Davison [*H.A.*], Mr. Frank Dicksee, R.A. [*H.A.*], Colonel G. A. H. Dickson, M.V.O. [*F.*], Mr. J. W. Domoney (Chairman of the Bridge House Estates Committee), Sir William Emerson [*F.*], Lady Emerson, Mr. C. W. English, Mr. Frederic R. Farrow [*F.*], Mr. W. Fleming (Secretary of the Royal College of Physicians), Mr. William Flockhart [*F.*], Mr. Frank Fox [*A.*], Mr. Percival M. Fraser [*A.*], Sir Ernest George, A.R.A. [*F.*], Mr. James S. Gibson [*F.*], Mrs. Gibson, Mr. G. Bird Godson (President of the London Master Builders' Association), Mr. Edward Greenop [*A.*], Mrs. Edward Greenop, Mr. John Hamp, Mr. Stanley Hamp [*A.*], Mr. Henry T. Hare (*Hon. Secretary*), Mr. G. Lovell Harrison, Mrs. G. Lovell Harrison, Mr. W. H. Harrison [*F.*], Mrs. W. H. Harrison, Mr. W. A. Hawes, Mr. Lewis Hind, Miss Florence Hobson, Mr. James S. Holliday (President of the Institute of Builders), Mr. George Hornblower [*F.*], Mrs. Hornblower, Mr. Edgar Horne, M.P. (President of the Surveyors' Institution), Mr. Gerald Horsley [*F.*] (President of the Architectural Association), Mr. George Hubbard, F.S.A. [*F.*], Mrs. Hubbard, Mr. John Hudson [*F.*], Mrs. Hudson, Mr. John Hunt [*F.*], Mrs. Hunt, The Very Rev. Professor Inge, D.D. (Dean of St. Paul's), Mr. T. E. Lidiard James [*F.*], Sir W. Goscombe John, R.A. [*H.A.*], Mrs. Goscombe John, Alderman Sir Charles Johnston (Sheriff of London), Mr. J. P. Lassen, Sir Charles Lawes-Wittewronge, Bart. (President of the Royal Society of British Sculptors), Mr. Sydney E. Letts, Mr. W. J. H. Leverton, Sir James Linton, P.R.I. [*H.A.*], Mr. Edwin L. Lutyens [*F.*], Mr. Ian MacAlister (*Secretary*), Mrs. Ian MacAlister, Mr. Fred W. Marks [*F.*], Mr. R. W. May, Mr. Stanley J. May [*F.*], Mr. H. A. Miers, F.R.S. (Principal of the University of London), Mr. Alfred Moor-Radford, Mr. Philip Morrell, M.P., Sir Henry Morris, Bart. (President of the Royal Society of Medicine), Mr. John Murray [*F.*], Mr. Harold Oakley, Mrs. H. Odell, Mr. R. Barry Parker, Professor Beresford Pite [*F.*], Mr. E. Turner Powell [*F.*], Sir Edward Poynter, Bart., P.R.A. [*H.F.*], Mr. Andrew N. Prentice [*F.*], His Honour Judge Rentoul, K.C., Mr. Richard M. Roe [*F.*], Mrs. Roe, Mr. P. F. Rowell (Secretary of the Institution of Electrical Engineers), Mr. Joseph Sawyer [*F.*], The Right Hon. the Lord Saye and Sele, Mr. W. H. Seth-Smith [*F.*], Mr. Herbert Shepherd [*A.*], Mr. W. E. Shepherd, Sir Frank Short, R.A. (President of the Royal Society of Painter-Etchers and Engravers), Mr. Gilbert M. Simpson, Mr. John W. Simpson (*Vice-President*), Mr. John F. Slater [*F.*], Mrs. Slater, Mr. Marion H. Spielmann [*H.A.*], Mr. Leonard Stokes (*President*), Mrs. Leonard Stokes, The Right Hon. Sir Vezey Strong (Lord Mayor of London), Mr. Basil M. Sullivan, Mr. L. Sylvester Sullivan [*A.*], Sir Henry Tanner, C.V.O., C.B., I.S.O. [*F.*], Sir Brumwell Thomas [*F.*], Sir J. Wrench Towse (Clerk of the Fishmongers' Company), Mr. Deputy Turner, Mr. Raymond Unwin [*F.*], Mr. Horace M. Wakley [*F.*], Mrs. Wakley, The Hon. John Wanamaker, Mr. Edward Warren, F.S.A. [*F.*], Mr. Septimus Warwick

[*A.*], Mr. Paul Waterhouse [*F.*], Sir Aston Webb, C.B., C.V.O., R.A. [*F.*], Dr. Bourne (Archbishop of Westminster), Mr. Thomas B. Whinney [*F.*], Mr. A. G. White (Secretary of the National Federation of Building Trades Employers), Mr. Edward White (Chairman of the London County Council), Mr. J. G. White (President of the National Federation of Building Trades Employers), Mr. W. Henry White [*F.*], Mrs. W. Henry White, Mr. Clyde Young [*A.*], members of the staff, and representatives of the Press.

An excellent programme of music was performed during the evening by Herr Gottlieb's Vienna Orchestra. The usual loyal toasts were proposed by the President and duly honoured.

Dr. H. A. Miers, F.R.S., Principal of the University of London, proposed the toast of "Architecture and the Sister Arts." He said that he supposed that in that Hall it would be out of place to say that he was like a fish out of water. But he could compare himself to that Englishman who, on being invited to a dinner of Scotsmen in London, found, when called upon to reply to the toast of his health, that he was the only Englishman present, and on rising to his feet said, "Ladies and gentlemen, I am a Scot"—and then, after the rounds of applause had died away, adding, "neither by birth nor inclination." He took it that no one would say that he was an artist neither by birth nor inclination. Most people would wish to be artists even if they had not been born with the taste or desire, and he could say that from his earliest days he had taken an interest in architecture. One of his earliest escapades was, after reading Parker's Glossary, to run away from school with a comrade to study the architecture of Iffley Church. He could claim that the tender influences of the art had been acutely felt by him in his later life, for no one could spend five years under the engrossing influence of Eton, three years at Oxford as a student, and thirteen years afterwards as a Professor, without realising what an important part architecture plays and must play in the education of one whose early life is passed in contact with some of the most beautiful examples. The traditions and inspiration of both Oxford and Cambridge were largely due to the fact that they possessed such beautiful old buildings. There was a passage in the autobiography of John Stuart Mill relating how, when a boy, living amid sordid surroundings, with nothing to inspire him in the buildings in which he lived, he paid a visit to the Benthams at Ford Abbey. These fine old buildings among historic and romantic surroundings greatly impressed him, he said, and gave him a freer existence. Coming from Oxford to London, he (the speaker) had felt not so much the inspiring influence of architecture as its deplorable absence. He called to mind the visit some time ago of a German professor, who was sent to report on the buildings in England which seemed to represent an idea, which were the expression of a dream—some historical fact or faith which stood for something to the people. Coming from Oxford to London he found this great difference—whereas in Oxford there were buildings which stood for idea and tradition, he was ashamed in coming to London to find it was the only University city which had no buildings that it could call its University, no central hall or residence. If London could ever, with the help of some generous benefactor, and with the assistance of some great sculptor and painter, erect a fine work of architecture which would stand for the academic idea—be the visible expression of the University—then they would have performed a great service to London. Only once had he met a London cabman who professed to know where the University of London was, and that man said, "Is it somewhere in Hoxton, sir—or is it Holloway?" There was, it seemed, some confusion in the cabman's mind between the University and the Union. If that was so, it was because not only was there no University building in London, but because architecture had run riot, and had produced buildings intended for unions which could be mistaken for Universities. The attempt was being made in one part of London, owing to the enterprise of Professor Geddes, to give Crosby Hall something like academic surroundings, and something in the nature of University character. Until he came into the building that evening he did not know what were the sister arts, but he had little doubt that sculpture was one. In coming to London he had been impressed, again, with the want of alliance between architecture and sculpture—the sort of alliance that impressed the mind of those who studied the ancient arts, or visited Greece and saw what that alliance meant in the days of the best Greek art. The ordinary traveller who visited the sculpture galleries of Europe, or the ruins of the fine buildings of Greece or Rome, failed to realise what an important part sculpture played in those days—in the beauty and meaning that it conferred upon those buildings. Those who visited museums and saw sculpture torn from its surroundings and wrongly restored did not always understand the important part it played in the buildings. He hoped that this association in the toast of the two arts of Sculpture and Architecture meant that we realise the need of a close union between the two. Those who a few years ago visited Dresden, for instance, and saw a headless statue there, and then went to Bologna and saw a bust labelled "Head of a Youth," failed to realise that together they made up the Athena Lemnia that once stood on the Acropolis. Many travellers missed the meaning of this association because the sculpture and architecture were not brought together. London was the only great city of the world which did not possess an adequate collection of casts from the antique. At Munich, Berlin, Copenhagen, and elsewhere were fine collections, but not so in London, though he was glad to say that a beginning was being made. As to Painting, at the present moment there was an exhibition at the University of London which took one back to the beginnings of painting; he meant the extraordinary collection brought back from Egypt by Professor Flinders Petrie. He did not know what other arts were to be associated in this toast; perhaps the art of Town Planning, which now figured so largely in the public mind, could be included. The English were not to be regarded as an artistic nation, but the interest in town planning indicated a desire for artistic architecture to make our towns a systematic development of artistic buildings, rather than a collection of structures thrown together in a haphazard way, as most of them were at the present time. We were endeavouring now to take steps to further architectural education in the University of London by combining what were now two small and scarcely adequate schools of architecture in the hope that we might make of them one large and strong school in which, he trusted, they would not only have the help of the Institute, but of the whole profession of architects. He hoped before long to be able to say that they were beginning to teach properly the subject of sculpture at the University of London. The toast was "Architecture and the Sister Arts"—

the sister arts being the Three Graces that accompanied the architect throughout the world, or, from another point of view, the Three Fates which determined his career.

Professor Beresford Pite [*F.*], responding for "Architecture," said that Professor Reginald Blomfield had designated Architecture as the Mistress Art, and in his absence he would make no apology for the academic use of the expression. He accepted with gratitude the compliment paid to them by the Principal of the University of London. It could not fail to be noticed by any keen observer that in the basis of a sound and completely organic system of architecture the great arts of painting and sculpture lived, moved, and had their being. We were living in an age of a high degree of specialisation of all forms of thought and action; painting had specialised in itself, and had come in to decorate frames; and sculpture had left the historic position it formerly occupied in the pediment and the frieze and was now isolated in various other ways in buildings. In the proper subordination of these arts to the Mistress Architecture, they had their proper sphere in the family of the arts—their proper application in the external and internal decoration of buildings which was necessary for their life and existence. In this proper subordination to the Mistress Art, something was done to restore the arts to that proper equilibrium which the proposer of the toast referred to when speaking of the great buildings for the University of London which he hoped to see erected one day. The Principal thought our buildings did not express artistic tradition; but we had artistic tradition as great as any artistic nation. There was a larger and deeper interest in the beauty of our cities at large than some of us were quite conscious of, and as an Institute of Architects they had a right to claim attention. Speaking in the presence of the Lord Mayor of London, he congratulated him on presiding over the destinies of one of the most beautiful cities in the world. Within the area governed by the Lord Mayor and the distinguished Chairman of the London County Council were the Palace of Greenwich, Somerset House, Waterloo and London Bridges, to say nothing of St. Paul's Cathedral, a crown of Renaissance building such as no other city possessed. What city was there in France or Germany which had such a collection of mediæval structures as the Tower of London, Westminster Hall, St. Bartholomew's, Smithfield, the Temple Church, Southwark Cathedral, and, last of all, Westminster Abbey? Architecture in London was well served in the past. It was difficult to speak of the future. They were in the presence of those who were making the present we live in. Having alluded to the recent remarkable Town Planning Conference arranged by the R.I.B.A., the Professor said that the gathering together of men to consider the adequate treatment of buildings and their sanitary state and effect was a movement of the greatest importance, and he would suggest to the Principal of the University that town planning was architecture in its largest idea and most universal aspect. It was beautiful and touching to find that Parliament had recently conferred on the Corporation the honour of opening up and of exhibiting to the other side of the river and the world that lay beyond a view of St. Paul's Cathedral which would be unrivalled. He congratulated the Corporation on having secured the assistance of three distinguished members of the Institute, in whose character and ability they had every confidence in regard to the new bridge. But the question was too large to be left only to them; it affected the dignity of the whole City and their appreciation of the greatest monument of the architectural art we possessed as a nation. It was a question which concerned all who valued this great wonder of architectural art. They possessed in the site upon Ludgate Hill and the river at its foot a situation which placed London in the position of beauty which was well worth their interest and demanded their greatest attention. They might hope that it would be successfully dealt with. He was not sanguine enough to believe that the solution was quite so near as they should like. It was complicated with many questions. It was complicated with the question of the safety of the dome; it was complicated with a number of intimate financial questions of which he must not venture to speak. But whatever the difficulties, whatever the responsibility might be, he was sure they would back the Corporation and support them in any scheme which was sufficiently large to do justice to St. Paul's Cathedral and to Sir Christopher Wren.

Sir E. J. Poynter, Bart., P.R.A. [*Hon.F.*], responding for "Painting," said he felt some difficulty in approaching a subject so vast, in view of the very brief limits which he should impose upon himself; for, short of a studied lecture, there was no way of dealing adequately with a topic so complicated and so questionable in its aspects. Nor did he know exactly how he should best return thanks for "Painting" as an abstract proposition. If the toast was intended as an expression of their kind wish for the prosperity of the art from a commercial point of view, he felt some regret at not being able to summon the ghost of his great predecessor, Sir Joshua, or one of his contemporaries to reply to it, for in the picture market they were now experiencing such a success as his (the speaker's) own contemporaries might well look upon with envy; nevertheless, for their good wishes, so far as they extended in this direction, he thanked them most heartily, not without a pious hope that they might be realised. As for that other success, the "succès d'estime," the success which, though less substantial, was no less a source of pride and encouragement, he might truly say that the English School had of late years gained it in a remarkable degree. In all the international exhibitions that had been held in the last twelve or fourteen years the English painters had, to say the least of it, shown themselves second to none; and notably at the present Exhibition at Rome, where by common consent the English section was acclaimed as the most distinguished feature of the Exhibition, and he ventured to say that the English school of painters, if they would keep their own individuality and cultivate that love of beauty which had been its distinguishing characteristic from the days of Reynolds, Constable, and Turner, and others—he ventured to affirm that they had nothing to fear in any competition for honours in the world. But he had not forgotten that this toast, as well as that of "Sculpture," was associated with that of "Architecture," as was only right on an occasion when painting and sculpture were the guests of the distinguished institution which was so hospitably entertaining them; nor did he forget that painting took its highest form and fulfilled its noblest function when used for the decoration of great works of architecture. It was the first use to which painting was put, and he might say that the majority of the greatest works of painting that the world had seen were produced for such a purpose, adding a lustre to ecclesiastical and public buildings and private palaces which frequently outshone the edifices which they adorned. When he

mentioned the works of Michelangelo and Raphael in the Vatican, the paintings of Giotto in the Arena Chapel, of Orcagna and Ghirlandajo in Sta. Maria Novella, of Tintoretto in the Scuola of San Rocca, of Pinturicchio in the Library at Sienna, he merely touched at random on a few amongst the hundreds of examples which the combination of painting with architecture presented to them in Italy alone, and where, if the building would suffer by the loss of the paintings, it might with equal justice be said that the painter would never have risen to such heights but for the architecture whose beauty he was called upon to enhance; for the treatment of great spaces in noble architectural surroundings led to the highest form of expression which the art of painting could achieve. He had frequently dwelt in this sense on the importance of giving opportunities of this kind to our painters. The mere fact that an artist felt himself to be working for something that should permanently appeal to the public, that he was doing something of national importance, was a stimulus to him to put forth his best efforts, to bring his intellectual and artistic faculties to their highest use. Such efforts were the best antidote to that loose method of work from nature which too often formed the staple of our exhibitions; and it was sincerely to be hoped, in the interests of art, that public spirit would not stop at the completion of the corridor in the House of Lords, which had proved such a success, but carry further the scheme of decoration originally proposed for the Houses of Parliament. But the association of painting with architecture had another field of the highest usefulness, in which architecture became the handmaid of the painter. He was hardly over-stating the case when he said that from the time of Giotto to that of Tintoretto there was not a painter in Italy who had not a thorough knowledge of architecture and did not understand its value as an adjunct to his compositions; indeed, everywhere, up to the middle of the eighteenth century, there was hardly a figure painter who could not enrich his subjects with the splendour of architectural backgrounds and accessories. Those in this country who were capable of so doing at present might almost be counted on the fingers of one's hands. This lamentable ignorance of a great and closely allied art was a serious handicap, both by the limit which it imposed on painters in the choice and treatment of their subjects, and by the still more lamentable failure to design correctly when they attempted anything of the kind. It was his hope that in the Royal Academy Schools a course of architecture might before long be imposed on our painter students, instead of its being left, as at present, to the student to take it up as a voluntary exercise.

Sir Charles Lawes-Wittewronge, President of the Royal Society of Sculptors, responded for Sculpture, and was understood to say that the alliance between the arts was much more of a pleasure to be associated in than to talk about. The Society he was connected with was quite a young Society, but they had been immediately recognised by the Board of Trade, and it became their duty to organise various exhibitions which had taken place, and especially the British Exhibition at Rome. The use of sculpture to decorate our buildings reacted in favour of the school of sculptors, and he hoped that our sculptors in the future would be able to hold their own, and perhaps even surpass the contemporary schools of the world.

Sir Aston Webb, C.B., C.V.O., R.A. [*F.*], proposed the toast of "The Houses of Parliament." He said it was usual on occasions of the kind to say that Parliament had little to do with matters of art, but he thought that in the last two or three years they had had more to do with questions of art than before. The House of Lords had dealt with several important art matters, including the decoration of their own building, and the House of Commons had just given an opinion on a very important question of art, and decided that art should be considered in such an important matter as throwing a bridge over the Thames at St. Paul's. He had been told by an M.P. that what the result of the debate on the question would be in the House of Commons no one knew until it was declared, and said that he thought it was the first time that the House of Commons had expressed a direct opinion on a question of art and been left entirely free to express their views. He thought that result was largely due to the persistence of the President of the R.I.B.A. Another matter that the House of Commons had devoted a good deal of time to and which had interested architects very largely was as to housing and town planning. A gentleman asked him quite recently if a Bill on the subject had been passed, and if it would do any good and would enable him to pull down insanitary cottages, as in his parish there were a large number of cottages, the bedrooms of which had no windows, the only openings being 9″ by 9″ in the walls, filled up with a solid bit of glass. He (the speaker) replied that the cottages could have been pulled down without the Act; but as to that Act, it was a splendid measure, and the more it was used the more that would be realised. It was on these lines that the Houses of Parliament could assist them in their art work. They all knew that the Houses of Parliament could not provide a design, not the Cabinet Council, nor the Parliamentary Committee, nor even their own Institute as an Institute; but what all these public bodies could do, and, he was glad to say, were doing, was to see that when great public schemes were brought forward they were placed before those who could and were willing to prepare a scheme for them. It was on the lines of the Housing and Town Planning Act that so much could be done by the Legislature towards the good of our art and the people. If it was true, as they knew it was, that righteousness exalteth a nation, it was also true that bright and happy homes and beautiful surroundings would increase and multiply the happiness and brightness of the people of the country.

Lord Saye and Sele said he could not get away from the fact that they were engaged in the House of Lords in passing a Bill which some of them thought would bring salvation to their fellow men, and some of them thought would bring them to what was expressed by another word ending the same. Perhaps it would appeal more to them if he said that some of them thought they were building a house and others thought they were pulling it down. But at any rate if he thought they were building a house, it would appeal to them if he said he thought they had a very difficult task to perform, because they did not know what the quantities were. He had attended in this noble House some years now, and he found that the quantities were some 600 noble lords, but he had never seen more than 200 of them, and he did not know where the other 400 were; and what would they think if they were put into the position of building a house with such bad information as that? As the only living kinsman of that grand old specimen, the Bishop-Architect William of Wykeham, living in the house where he lived, he could

ay it was the greatest pleasure to be associated with architecture and in having a son who hoped to be an architect in the near future.

Mr. Edgar Horne, M.P., briefly responding for the House of Commons, said he heartily agreed with the suggestion that they, as legislators, were architects engaged in preparing designs, some of a State character and some of a promiscuous kind. Perhaps, however, they were not so much architects as decorators, for they did not think so much of their foundations as of the gold and tinsel trappings.

Mr. Paul Waterhouse [*F.*], in a felicitou speech, proposed the toast of the guests, coupling with it the names of the Lord Mayor and the Archbishop of Westminster. He alluded to the energy and ability displayed by Sir Vezey Strong during his year of office, especially in dealing with those world-wide and non-Metropolitan causes which it was possible for an energetic Lord Mayor to entertain and to further. In connection with his allusions to Archbishop Bourne he introduced a tribute to the memory of two great architectural names, Pugin and Bentley. In conclusion, he expressed the acknowledgments of the Institute to the Fishmongers' Company, by whose gracious permission the use of the Hall had been made possible.

The Lord Mayor, in responding, said he had the honour, on behalf of the guests, in company with his Grace the Archbishop, to assure them of their gratitude in having been so kindly and so hospitably entertained as the guests of the Royal Institute of British Architects. He was very much obliged to Mr. Waterhouse for the complimentary things he had said. He assured them of the gratitude he felt for the honour of being entertained as their guest. It was a great privilege for the mere man in the street, whom he represented, to come into the citadel of architectural learning and for a few hours to be permitted to sit at their feet and learn of them.

His Grace the Archbishop of Westminster said he was greatly honoured in being associated with the Lord Mayor in being permitted to return thanks to that distinguished company for their gracious hospitality that evening. The Lord Mayor, he took it, had replied mainly on the part of those who approached Architecture from the civic standpoint. Where he (the speaker) had come in contact with the architectural world was on the ecclesiastical side, and he thought that on that account the President and his colleagues had given proof of very great magnanimity in inviting him to be their guest that evening, because, dealing as he did with a large and congested and not over rich population, the great part of his work consisted in trying to set up ecclesiastical buildings of the simplest possible kind at the least possible expense ; and on that ground, looking back on his reminiscences, he found that generally his first interview with the many architects with whom he might claim friendship was the most pleasurable of the series ; he entertained great hopes, and his friends entertained great hopes, of possible things they might accomplish ; and later on he had the unpleasant task of trying to reconcile artistic conceptions with a very exiguous purse ; and yet, as the proposer of the toast had kindly alluded to the late Mr. Bentley, he would never forget he was continually under the shadow of what is recognised, he believed, as the very masterpiece of modern ecclesiastical architectural skill, and on that account, if at times he was bound to curb artistic aspiration, he was sure they would understand that after all we owe the late Mr. Bentley he could never be ungrateful to the members of their profession. Perhaps they would allow him to say that after all it was the Christian Church that offered architects in every age the highest opportunity of exercising their skill, and that on their part they had done more than anyone else to add majesty and dignity to Divine worship. He would express the hope that while they might have every possible success in every department of their art—civic and domestic, and whatever it might be—still, they would never fail to find in religion the fullest and highest sense of the artistic conception.

ST. PAUL'S BRIDGE.

Continuing the record in these pages of the proceedings in connection with the project for a new bridge across the Thames as put forward in the Corporation of London (Bridges) Bill, the Corporation, in accordance with the instruction of the House of Commons that the opinion should be consulted of an architect or architects chosen from among the leading architects of the day, have submitted their scheme to Sir William Emerson [*F.*], Thomas E. Collcutt [*F.*], and Dr. J. J. Burnet, A.R.S.A. [*F.*]. The result was made known on the 11th inst. at a meeting of the Select Committee to whom the Bill had been recommitted, when the architects' report, dated 7th July, was presented as follows :—

The Architects' Report.

We have now completed our inquiries and consultations, and have the honour to reply to your letter inviting our opinion and advice in respect to the instruction of the House of Commons to the Committee on the Corporation of London (Bridges) Bill "not to agree to any scheme for the construction of the proposed new bridge, including the approaches thereto, until they are satisfied that the scheme, both in respect of architectural design and convenience of traffic, is the best adapted to the public needs and best suited to the character of the site."

2. We construe the words "the scheme" in the instruction as meaning the official scheme of the Corporation, or any alternative scheme, for a bridge to open out at or near St. Paul's Churchyard, which is the "site" in question. We have considered the scheme and also some other suggestions. The instruction opens up the three questions of—(*a*) The best adaptation to public needs ; (*b*) Appropriateness to the character of the site ; and (*c*) Architectural design.

3. We accept as essential conditions for a satisfactory scheme the following requirements :—(1) That the projected bridge must have its roadway at the level above high-water mark shown upon the section ; (2) that the linking of the northern and southern tramway system is an integral part of any scheme ; (3) that the roadway from the bridge must be carried as a bridge over Queen Victoria Street.

4. As to (*a*) adaptation to public needs, the object of the Bill is to relieve the congestion of traffic between south and north over London, Southwark, and Blackfriars Bridges, from a point in Southwark, near Marshalsea Road, direct to the main traffic roads to the north, *via* Aldersgate, and to offer facilities for connecting the tramway systems on the south with those on the north. After the most careful consideration, both separately and in frequent consultation, of various suggested or

possible routes, and study of the general plan of London roadways and contemplated tramways in the neighbourhood of St. Paul's, we are of opinion that the line of route proposed by the Corporation is best adapted to the public needs and to fulfilment of the objects of the Bill.

5. As to (*b*) appropriateness to the character of the site, we would point out that in the Corporation scheme the situation of St. Paul's in the relation of its line of axis to the central line of the river is not a factor. The area of the Churchyard would be increased, and there would be no consequential obstacle to the consideration of future improvements of the Churchyard. Moreover, better views of the Cathedral would be secured on the only side on which this can be done, without disturbing the picturesque charm of present surroundings. There is the further point of great practical importance that, owing to the depth of the Cathedral foundations and the quality of the subsoil, it is only on the eastern side of St. Paul's that a subway for tramways can be constructed above the level of the foundations without menace to the structure. (It is understood, of course, that the subway is not to be deeper than shown on the section.) Having carefully considered these points and all the surroundings of the site we are of opinion that the alignment proposed by the Corporation is the one best suited to the character of the site.

6. In respect to (*c*) architectural design, we are in complete accord with the opinion of the Council of the R.I.B.A., that an architect or architects should have been appointed to collaborate with the engineers as to the general design of the bridge and its approaches when the scheme was initiated. In making this observation, the Council of the Institute were undoubtedly actuated by the desire—shared, of course, by the City authorities—that a fine monumental bridge of masonry should be erected. In skilled hands the bridge and its approaches can be made a magnificent addition to the river scenery about the City.

7. Since the scheme was published side issues have been raised as to the "opening up" of St. Paul's. At first sight, and without detailed expert scrutiny, the idea that the opportunity might be taken to open up a vista terminating in the south transept of the Cathedral is attractive. The project shown by black lines on the plan has appealed to some architects and to a section of the public, and there has been a tendency to subordinate the main purpose of the new avenue of traffic between north and south to what would at the best be a subsidiary aim. In considering the project three points of great importance have to be borne in mind. They are: —(i.) The alignment of the bridge in relation to the river, since the proposed vista would only be obtainable by the building of a skew bridge; (ii.) the width of the northern approach to the Cathedral; and (iii.) the possibility of future river embankments being constructed below Blackfriars.

8. We are of opinion that the suggested alignment is not good, and that as it would be almost impossible to make a satisfactory monumental design for such a skew bridge in masonry, it is probable that the bridge would have to be of steel—a contingency which the R.I.B.A. evidently wished to prevent.* There is strong presumptive evidence that Wren did not design the side elevation of the Cathedral to be looked at from any great distance. This is shown by the bolder treatment of the west front and of the Dome as compared with the comparatively superficial ornamentation of the other wall surfaces. And in this matter the great architect ofllowed the best traditions of his profession. We know of no famous public building, either here or on the Continent, in respect to which it has been considered necessary to arrange great roads leading to the side of the structure. Wren evidently did not contemplate such approaches in the case of the Cathedral, but he did contemplate a wide road at the east end, and that he was capable of taking large views as to future requirements was shown by his well-known plan for the rebuilding of London. We may add that the Greeks—great artists—took especial care that the Parthenon should not be approached by a road leading directly up to it.—[*I am of opinion that it would be possible to construct a bridge over the river giving a vista of St. Paul's, which I should much prefer if found practicable. —T. E. Collcutt.]

9. Further, it is to be observed that views not less interesting than the suggested "vista" will be opened up by the roadway proposed by the Corporation, and that it would not prevent improvements subsequently being made, if necessity arose, in connexion with a general scheme for improvement of the Churchyard. We wish it to be clearly understood, however, that in our opinion there is a limit to such "improvement," and that to exceed it would be to place Wren's design at a positive disadvantage by bringing it under conditions it was not designed to meet. But such limit would not be exceeded by the improvements the proposed Corporation route would effect, and facilities would be offered for opening up picturesque views of St. Paul's which have hitherto been obscured.

10. While it has been no part of our duty to examine with care the financial aspects of the conflicting schemes which have been the subject of public discussion, we feel it right to say that we have been impressed by the extent to which the "vista" scheme would involve altogether heavier expenditure, out of all proportion to the Corporation project.

11. With respect to the suggestions we are asked to make, we agree with the Council of the R.I.B.A. in their recommendation that architects should collaborate with the engineers in the designs for the bridge, the archways over Queen Victoria Street and Thames Street, and the approaches as well as the accesses from the lower and higher levels, and in the debouchment of the roads. If the general scheme is passed by Parliament we advise that such architect or architects be appointed.

12. We submit the following suggestions for improvement of the scheme as shown on the plan:—

(1) That where the bridge road debouches on to Cannon Street it should be opened out as much as possible within the lines of deviation, and that the corner building to the south-east of Old Change be also acquired, thus opening that corner towards St. Paul's.

(2) That the building frontage along Old Change should be no nearer to the east end of the Cathedral than at present, any future buildings following that line, and that the whole of the existing buildings between St. Paul's and Old Change should be removed.

(3) That at some time the property now obscuring the south end of the Post Office in St. Martin's-le-Grand be acquired, and the space opened up and arranged so that a fine suitable architectural feature might centre on the line of the new bridge. If this were done it would also be possible for Foster Lane to somewhat relieve the traffic by St. Martin's-le-Grand.

These alterations would give views of both the south-east and north-east sides of St. Paul's not hitherto obtainable. Further, ample space would be provided for the traffic at the road junctions, and right-angled crossings would be avoided.

Possible Damage to St. Paul's.

The following letter to Mr. Basil Mott, engineer to the Bridge scheme, from Mr. A. J. Barry, engineer to the Dean and Chapter of St. Paul's Cathedral, was laid before the Committee :—

In reply to your letter of the 27th inst., in which you inquire what my views would be as regards the possible damage to St. Paul's Cathedral if a tramway subway were constructed nearer to the south side of the Cathedral than shown on the plans that have been discussed between us, I beg to say at once that I should regard with the gravest concern any proposal that would involve the excavation of the subsoil nearer to the Cathedral than as shown on the plan you submitted to me, more particularly if such disturbance of subsoil took place on the south side of the Cathedral.

After discussing with you the *maximum* depth to which the foundations of the tramway subway as proposed to be constructed under your Bill of this year should be carried, the horizontal distance of the same from the foundations of the Cathedral, and after agreeing on certain protective works to be carried out before the proposed excavations were commenced, we eventually agreed with you certain clauses for the protection of the Cathedral. In consenting to the disturbance of ground even in the situation as then proposed we were not without some misgivings, and in accepting the clauses which were finally agreed we were actuated by the desire not to interfere if possible with a work of great public importance. We were influenced, too, by the fact that the proposed excavations for the tramway subway would only affect that part of the Cathedral foundation which carries the least weight and is most secure.

When you inquire what my views would be as to the possible damage to St. Paul's if the subway were constructed nearer to the south side of the Cathedral, I presume you have in your mind the construction of a tramway under St. Paul's Churchyard from the point about opposite to the centre of the south transept window eastwards and round the east end of the Cathedral. I have no hesitation in saying that from an engineering point of view I should regard the carrying out of such a proposal as certain to cause the most serious damage to the structure of the Cathedral. The main dome is, as perhaps you know, carried on four main corner piers, in addition to eight intermediate ones. The four piers on the north side have settled very little. In every case the piers carrying the south segment of the main dome have settled considerably more than any of the others. The south wall of the west transept has developed serious cracks, and there has been a general movement or draw of the whole structure towards the west and the south. This is evidenced by numerous cracks in the building, and by the fact that the south wall of the building is already out of the vertical. Generally I regard this part of the Cathedral as already being in a state of comparatively unstable equilibrium, and I should regard a far less serious disturbance of the subsoil than that which would be involved by the construction of so large a work as a tramway subway as close to the south wall of the building as I understand is proposed as entirely unpermissible in the interests of the security of so important a public structure as the Cathedral.

Reconsideration by the Select Committee.

Mr. Honoratus Lloyd, K.C., on behalf of the Corporation, pointed out, with regard to the suggestions appended to the architects' report, that the second recommendation was already within the limits of deviation, whilst Nos. 1 and 3 were improvements which the Corporation had in contemplation and would no doubt be carried out.

Professor Beresford Pite, giving evidence against the Corporation scheme, said his first objection was that the proposed wide thoroughfare did not combine architecturally with the great monument of St. Paul's. There was a want of definite architectural relationship between the great causeway and the great building. His second objection was rather to the aspect than to the plan. The aspect of St. Paul's was an architectural crown to the City and an asset of great value. What they had to consider was the opening out of a new view of St. Paul's as an artistic possibility. As to a "skew" bridge, he did not feel that there was an artistic objection to the relation of the piers beneath the bridge with the direction of the road upon the bridge.

Replying to Mr. Forbes Lankester, K.C., Professor Pite said that he approached this matter mainly from the artistic point of view—as to the best means of showing the great monument of St. Paul's in an improved aspect. He thought large sums of money should be spent in order to open out the Cathedral generally.

Further (replying to the Chairman) if it was a question between tramways and St. Paul's he would undoubtedly say, "Whatever you do, do not take the risk. St. Paul's is worth more to us in centuries than the tramways are in generations."

The Chairman mentioned that in reply to a communication he had sent asking whether the R.I.B.A. would like to give evidence at that inquiry, he had received a letter, dated 4th July, written at the request of the President and Council of the Royal Institute, stating that :—"The announcement of the Corporation appointing three eminent architects to advise them on their proposals entirely meets the view of the Royal Institute. Now that these gentlemen are appointed the Institute has no further views to express in the matter."

Asked whether he agreed with this action, Professor Pite said he did entirely. The Corporation having consulted architects of sufficient eminence to advise them, the Institute could not and would not challenge as a matter of personal opinion the position of any of its members.

Sir William Emerson, giving evidence, said that in his opinion it would be almost impossible to make an architectural monument of a "skew" bridge. A bridge of that sort could be constructed of masonry, but the primary difficulties of designing would be so great that it would probably result in the end in its being built of steel or reinforced concrete. As to the vista of St. Paul's which would be opened up by the adoption of a scheme on the lines put before the Committee by Mr. Pite, he thought it would be going out of the way to make a strained effect. A great deal of the mystery and charm of St. Paul's would be destroyed by a long approach.

Mr. T. E. Collcutt, examined, said his objection to an 80-foot roadway leading up to the south transept of St. Paul's was that on either side of the new roadway there would be buildings at least 80 feet high, and to get a proper view of the dome and a proper effect of the vista the whole of the dome should be disclosed. It would be necessary for the road from Queen Victoria Street, for instance, to the south transept to be at least 150 feet or 160 feet wide to get a proper view of the transept and dome of the Cathedral. He did not like the ideal of the new vista opened up by the Corporation proposal ending in a view of an oyster shop. A modern building, designed for the purpose of ending the vista, should be erected.

Dr. J. J. Burnet said that if the bridge was built, as the Corporation proposed, leading up to the east end of St. Paul's, it would give anybody approaching the Cathedral the idea that it stood upon a hill, and that was why he approved of the route.

The inquiry was resumed on the following day, when evidence was given by Mr. Fitzmaurice, Chief Engineer to the London County Council, Mr. Somers Clarke, late Architect to the Dean and Chapter of St. Paul's, and Mr. W. E. Riley [*F.*], Superintending Architect to the L.C.C.

The Committee having consulted in private, the Chairman announced that they had come to the conclusion that the scheme for the construction of the proposed new bridge, including the approaches thereto, was both in respect of architectural design and convenience of traffic the one best adapted to the public needs, and best suited to the character of the site, and they would report accordingly to the House.

Debate on the Third Reading.

The following is extracted from the report in *The Times* of the 19th inst. :—

The motion for the third reading having been put,

Mr. Dickinson (St. Pancras, N.) moved that the Bill be read a third time on that day three months. He said the scheme as it had been presented to the House had from the beginning been on much too small and narrow a scale. It emanated from the brain of the chairman of the Bridge House Committee of the City Corporation, and it had been pushed forward without a really full public inquiry and the acquisition of the general views of the public. He could conceive of no other city in the world setting to work on such a great improvement in the way adopted by the Committee of the Corporation. The Corporation had misled the House and the public as to the amount of support the proposal had behind it. They stated that they had behind them the London County Council—that that Council had sent their Chief Engineer to support it. Literally that was true. A Committee as a matter of urgency allowed the Engineer to give evidence, but until last week no authority was given by the Council for such a purpose. When one looked into the reports of the County Council it did not appear that the Council as a whole had ever considered the scheme or given its authority to it. All that the Council had concerned themselves with had been the question of how much money they should contribute to the widening of the street east and north of St. Paul's; they had never given any attention to the question as to whether that scheme was the best that could be introduced. He submitted that the House had not got before it anything that could be considered a complete scheme, nor any guarantee whatever that the linking-up of the tramway service north and south would come about. No such linking-up of the tramways could take place except at very great expenditure, which would fall on the London County Council and the ratepayers. The House had no materials to enable them to come to a conclusion as to whether the scheme before them was really the best scheme. Personally he doubted very much whether it was wise to bring the great north and south traffic through the very heart of the City. It would be very much better if the slow traffic went round and avoided St. Paul's. The Committee had not heard any real criticism of the scheme from the public point of view, and the second inquiry had not withdrawn his objections. He criticised the policy of asking the three architects to give evidence before the Committee as additional witnesses, and urged that these three gentlemen construed the words "the scheme" as meaning the official scheme of the Corporation, or any alternative scheme for a bridge to open out at or near St. Paul's. The House had not taken such a narrow view of the issue, and he asked them to send back the Bill in order to see whether the Corporation could not produce some scheme more worthy of their reputation. If there was a better scheme it was worth the delay of another year to obtain it.

Mr. Grant (Cumberland, Egremont) seconded.

Mr. Morton (Sutherland), speaking for the City Corporation, said that, so far from acting with undue haste in the matter, they had had the question of providing extra bridge accommodation before them for ten years. In selecting Sir William Emerson, Mr. T. E. Collcutt, and Dr. J. J. Burnet to make a report the Corporation had sought to get some eminent gentlemen who had not openly expressed any opinion on the subject. They had now received a letter from Mr. Leonard Stokes thanking them for the very straightforward way in which they had dealt with the question. That showed that those who had been their first critics were entirely satisfied with what the Corporation had done. His own opinion was that their scheme would show up the dome of St. Paul's as well as any other, and the "vista" scheme would cost two millions more money. They had not got that money, and they would have to borrow it—a course which they would not think of taking.

Mr. Hayes Fisher (Fulham) said, though he was not authorised to speak for the County Council, he would like as a member of that body to commend this Bill to the House. This was the first time that the City Corporation and the London County Council had ever entered into an agreement for a great London improvement in connection with their traffic, and he should be sorry if the agreement were overborne. They had, too, an undertaking from the Corporation that they would aid in promoting a Bill if ever it was sought to join the tramway systems across this bridge. He was sure they were all equally desirous of seeing beautiful things in London, but there was proof that beauty had been considered as well as traffic arrangements, and they were informed by three eminent architects that this was a very good scheme from the architectural point of view. The evidence was overwhelming in favour of this scheme. Hon. gentlemen ridiculed the idea of a million or two being added to the expenditure, but if the House was able to force on the Corporation a more expensive scheme he could assure them on behalf of the ratepayers that the County Council would not be willing to increase their proportion of the contribution to the cost.

Mr. S. Collins (Lambeth, Kennington) said that the only argument presented against a great national scheme was a matter of an additional £2,000,000. They spent nearly as much on a Dreadnought, which was obsolete

in ten years, and here was a scheme that would last for ages. They ought to rise to the occasion and reject the Bill.

Mr. Mooney (Newry) said that the hon. member for St. Pancras complained that the London County Council and the City were not in earnest with regard to the tramway scheme. He had never yet known an undertaking given by any responsible body before a Parliamentary Committee to be broken, and the Corporation of the City told the Committee that there was an agreement between them and the County Council with regard to the tramway. The hon. gentleman opposite said that the Committee had simply reaffirmed the Bill. That was not the case. Immediately after the House had come to a decision he instructed the clerk to the Committee to invite the Royal Institute of British Architects to assist the Committee by giving evidence concerning the alternative scheme; but as soon as the names of the eminent architects who had been consulted by the Corporation were published the President of the Institute wrote that the appointment of those gentlemen as advisers met the view of the Royal Institute, and that body had no further views to express. In regard to the question of traffic as affected by the scheme, he preferred the judgment of the Commissioner of the City Police and the Assistant Commissioner of the Metropolitan Police to that of Professor Beresford Pite. The House of Commons had a perfect right to throw out this Bill, but if the House did so it would do harm to the representatives of the City and to traffic facilities. The House ought to have some reliance on the people to whom they deputed the duty of considering the details of the scheme. Those details could only be properly considered with plans and explanations of witnesses. The House of Commons, with the best will in the world, might come to a wrong decision if members formed their opinions on *ex parte* statements by people who had not the facts before them. The Committee had examined experts, and had considered the proposal from an architectural and traffic point of view, and he asked the House to pass the Bill.

Mr. Essex (Stafford) expressed the conviction that no line of tramway ought to be carried into the subsoil of the hill on which St. Paul's stood while that structure was in the comparatively unstable state of equilibrium in which it was now described as being. They had to make up their minds that on whatever lines this traffic question might be solved, the tramways must travel upon the surface. That would lay on them the necessity of providing a wider approach and thoroughfare than that which was provided by any scheme which had been brought before them. The London Traffic Commission laid it down as a necessity in dealing with the traffic of London that no thoroughfare of first-class importance should be less than 140 feet in its surface width. He was surprised that no reference had been made in this debate to the important letter which appeared in *The Times* of 10th June pleading for an assurance that this great opportunity for increasing the architectural beauty of London should not be missed. That letter was signed by Sir Ernest George, Sir George Frampton, Mr. Reginald Blomfield, Sir John Sargent, Sir L. Alma-Tadema, Sir Thomas Brock, and Mr. John Belcher. We had been derisively called a nation of shopkeepers. If this scheme passed we would deserve the title to the full.

Mr. Balfour (City of London) said the hon. member who had just sat down objected to this scheme, not because there was a better one or because the House of Commons desired a different one, but because he thought there was to be found in the limbo of possibilities something which was more suited to the dignity of the Metropolis of the Empire than the scheme which had been dealt with by the Committee upstairs. He hoped the House would feel that it was impossible to defer a settlement of this important question until every human being was satisfied, until every scheme had been discussed from every point of view. They had to deal with the matter as practical men, and they had to deal with it from the point of view of finance—not the most important, but still an important consideration. One hon. gentleman said that this was an Imperial matter and they ought to deal with it in an Imperial manner, but he did not suggest that the Chancellor of the Exchequer should find the money. This was a London question, and though London should never be oblivious of its great position as the Metropolis of the Empire, to say, as the hon. gentleman said, that £2,000,000 did not matter was really to ask the House of Commons to treat the ratepayers of London in a manner which he would not dare to venture to treat the ratepayers of any other part of the Kingdom. As regarded traffic, he felt he could not say anything of great value to the House. But he might be allowed, perhaps, to endorse what fell from the Chairman of the Committee when he said that he and his colleagues had examined all the details in a manner which it was impossible to present to an Assembly like that and had studied the question in all its complexity, and that the judgment they had passed, whether it was good or bad, must be better founded than the judgment of an Assembly which had not heard the evidence and which could only deal with the very broad issues which were laid before it. What moved the House to refer this Bill back to the Committee was not whether this was a good or a bad way of attaining what they all desired, which was some better means of communication between the North and South of London. It was the æsthetic side of the question—that and that alone. If it had not been for the question of the beauty of the Metropolis he did not believe there would have been a single voice raised in the House when the Report came back from the Committee. He had often pleaded in that House for a wider and broader consideration of this question of the æsthetic beauty of London. Some of the inartistic parts of London were a perfect scandal. An enormous amount could be done to remove some of the eyesores which utterly disfigured some of the finest sites of the Metropolis. Much more could be done by removing the atrocious iron bridge over Ludgate Hill than by many more expensive schemes. He agreed that while London gained by the evidence of natural development everywhere visible they erred undoubtedly in not having sufficient of those vistas which were perhaps carried to excess in some modern towns. While they should have other opportunities of improving the architectural street vistas, he did not think that end would be obtained by having a bridge diagonally across the river. The House had by a majority referred the matter back to the Committee, the Committee had reconsidered it and had called architectural experts, who before they gave evidence received general approval as competent persons to deal with the problem. The Committee had dealt with it and had given their conclusions to the House again. While he agreed with the Chairman of Committees that the House was free to deal with the matter as it liked, he did not think they should reject it after the whole matter had been sifted from the artistic point of view. The House was not naturally an artistic body, and after all the investigations to which the matter had been subjected they ought not on the third reading to reject a scheme which would be a great convenience to the public of London.

The closure of the discussion being agreed to, the House divided, and there voted for the third reading 271, against 104. Majority for, 167. The Bill was then read a third time.

Some further Suggestions.

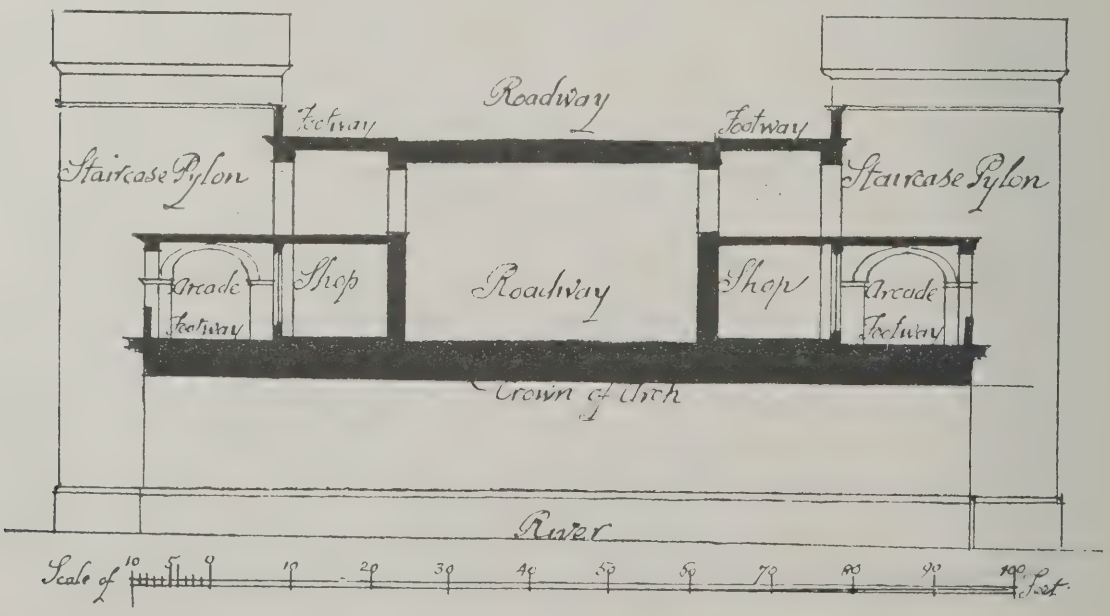
From Mr. R. W. Collier [*F.*], writing under date of 30th June :—

So far as a victory has been won by the Institute in obtaining the recommittal of the Corporation of London (Bridges) Bill, all those who are concerned for the architecture of London have reason to congratulate themselves. But the regret remains that the Corporation should have required to have pointed out to them the claim of architects to be consulted when the question is nothing less than an important piece of town planning. The problem to be grappled with is one which, if it is to be satisfactorily solved, will probably constitute the initial stage of a town planning project for the City of London which will have very far-reaching consequences.

Whatever may be said of the proposed new thoroughfare and Bridge, they doubtless afford an opportunity for opening up St. Paul's, although what is known as the alternative scheme suggested by Professor Beresford Pite can hardly be regarded as more than a somewhat crude suggestion even from an architectural point of view.

There is no reason why an approach road should not be made on the axis of the transepts, but this need not involve the obvious inconvenience of bringing the traffic right up to the cathedral as indicated on the alternative scheme above mentioned. Such an attempt to solve the problem is only introducing another difficulty.

What is surely required for the purpose of satisfying practical and architectural demands is that the approach road should open out on to an enlarged Churchyard or public place which should afford an unbroken thoroughfare past the cathedral and a full view of it ; securing not vista alone with



merely the transept and the dome at its extremity, but rather the whole side of the building.

It is suggested, then, that the approach road should be on the axis of the transepts to within say 500 feet of the cathedral, and bifurcate from that point at equal angles towards the east and west ends of the building; the intervening space between such branch roads being laid out as open space. But the question of approach is in the present case by no means the only one to be settled. It is one in which difference of level will materially affect the planning. The cathedral stands some 25 feet higher than Queen Victoria Street at a point due south of it, and it is very desirable that the Churchyard should be reached by a practically level approach. What an opportunity presents itself for designing a bridge in two stages!—the lower level lined with permanent shops or stalls and containing a roadway between them, and also wide footways beneath arcades between the shops and the parapet. This lower stage of the bridge would terminate at the level of Queen Victoria Street. The upper stage would be continued on over that street and terminate at the level of St. Paul's Churchyard by the bifurcating roads above described. The intervening space between these roads would obviously be falling land. Across this space, centrally with the transept, it is suggested a secondary approach might be made, as a continuation of the lower stage of the bridge on the other side of Queen Victoria Street, which would serve as a by-pass along which lighter traffic could travel.

Just before the bridge approach would cross the Thames, it might, without injury to the general effect, be given a slight bend, and thus allow of the bridge being carried straight across the river instead of spanning it on the skew.

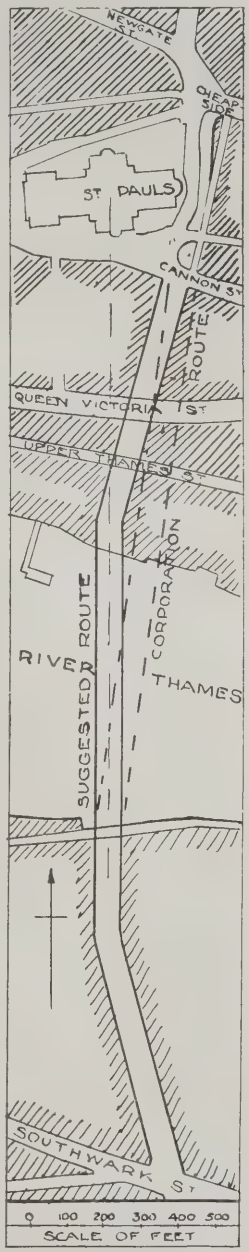
The removal of the buildings on the east side of the Churchyard proposed to be carried out by the Corporation would be a great improvement, whatever scheme were adopted. The space on the south side, above suggested as a part of the scheme, is at present occupied by warehouses which would be well away, and a more proper place assigned to them than hard by the cathedral.

The cost of such a scheme as above indicated would obviously be considerable; as a set-off against this there is no doubt that the sites for properties with frontages on the two approach roads would command an enhanced value.

South of the river the approach to the bridge might be laid out on a quadrant, forming a junction with Southwark Street, near Southwark Bridge Road. In this approach (probably along the centre line) an inclined road would be necessary, which might be of a very easy gradient, to enable traffic to reach the upper stage of the bridge.

From Mr. Harry S. Stewart, *Licentiate*:—

The scheme here put forward has always seemed to me to offer satisfaction both from an architectural and from a traffic point of view. A vista is desired terminating in St. Paul's; carry the bridge across axially with the dome. Direct communication must be provided; take the road straight from the north bank to pass the eastern end of the cathedral. I think it will be found that the rise from the north shore is such that to a person crossing the bridge the greater part of St. Paul's would be visible above the buildings between Queen Victoria Street and St. Paul's Churchyard. The scheme could be devised so that no buildings between the river and Queen Victoria Street would appear above the level of the bridge; the vista across the bridge would be terminated near the eye level by a façade in Queen Victoria Street and above that by St. Paul's. Although the lowest portion of the cathedral would not be disclosed, yet the effect of the great mass of the dome towering above the nearer buildings would certainly be much finer when seen axially with the bridge than when seen on the skew as it would be in the scheme which the Corporation propose; while the suggestion here put forward ought to meet the genuine objection to an awkward bend in the traffic route on the schemes which show the bridge line carried straight up to St. Paul's. The annexed sketch illustrates one of several routes which would carry out this suggestion.



Mr. R. S. Lorimer, A.R.S.A. [*F.*], of Edinburgh, and Mr. W. Goscombe John, R.A. [*H.A.*], have received the honour of Knighthood.

Count Plunkett [*H.A.*] has been elected President of the Museums Association.

Special Examination of Licentiates to qualify for Candidature as Fellows R.I.B.A.

The question of establishing the Examination required by Clause 2 of the Supplemental Charter to be passed by Licentiates who being otherwise qualified desire to be admitted to Fellowship of the Institute has been for some time under consideration by the Council. The matter having been referred to the Board of Architectural Education a scheme has been drawn up which has received the approval of the Council, and arrangements are in progress for holding an examination at an early date.

The candidate will be required to submit for the approval of the Council working drawings of one or more of his executed buildings, which may be supplemented by photographs thereof, and by original sketches or measured drawings of actual work. Should the work so submitted be, in the opinion of the Council, of sufficient merit, the candidate may be exempted from any further examination. Should the work so submitted be, in the opinion of the Council, inadequate, his application will not be further entertained. If the drawings submitted are approved by the Council, the candidate will be required to submit himself to an examination which will be held on the premises of the Royal Institute of British Architects, or elsewhere, as may be appointed by the Council of the Royal Institute.

Ten days before the examination is held a list of subjects will be issued to all candidates, and from this list each candidate will be required to select one subject, and to announce to the Secretary of the Royal Institute, five days before the examination, which subject he selects. When the candidate attends at the appointed place of examination, he will be furnished with particulars of the selected subject, and he will have to prepare a set of working drawings of the subject, and such details as may be required, together with full descriptive notes. The candidate will also be required to write a short paper or report on a subject previously selected by himself and approved by the Council. Four days will be allowed for the examination, and the candidate may be required, at the option of the Council, to attend subsequently for an oral examination on his papers. Candidates must provide their own drawing-boards and instruments. The fee for the examination will be six guineas, which sum must be sent to the Secretary R.I.B.A., with the candidate's announcement of the subject which he selects. If the candidate fails to pass the examination the fee will not be returned to him, but he will be allowed to sit for one subsequent examination without payment of any further fee.

Should a candidate be admitted and pass, he will be qualified, subject to Section 8 of the Charter, for candidature as Fellow.

Should a candidate not be passed by the Council he will be informed of the fact, but the names of unsuccessful candidates will not be announced or published.

Competition for the new Australian Capital.

The Government of the Commonwealth of Australia invite competitive designs for the laying-out of the Federal Capital City, and offer premiums as follows :—

For the Design placed first . Premium, £1,750.
For the Design placed second Premium, £750.
For the Design placed third . Premium, £500.

The conditions under which designs are invited, together with information, particulars, plans and instructions, may be obtained at the Office of the High Commissioner for Australia, London.

Designs must be delivered to the Department of Home Affairs, Melbourne, Australia, by the 31st January 1912.

The Council of the Institute of Architects of New South Wales have addressed to the Council of the R.I.B.A. a letter calling attention to the unsatisfactory nature of some of the conditions in the above competition, notably those relating to adjudication and premiums offered, and to the final decision being in the hands only of the Minister for Home Affairs. The Council of the New South Wales Institute, in conjunction with the other architectural societies of the Australian Commonwealth, have already protested against the attitude of the Government in regard to the competition.

The following clauses of the conditions are quoted for the information of members :—

"12. The designs delivered and admitted to competition will be submitted to a Board consisting of—

An engineer ;
An architect ;
A licensed surveyor ;

appointed by the Governor in Council for investigation and report to the Minister."

"14. The Minister will adjudicate upon the designs admitted to competition after they have been submitted to the Board, and such adjudication will be final and without appeal."

"18. The premiated designs shall become the property of the Government for its unrestricted use, either in whole or in part. Any claim for further remuneration by one or by all of the authors or their assignors or legal representatives will not, under any circumstances, be recognised."

"23. The Government by its own officers will give effect to the adopted design."

The Government further, within two months of the date of adjudication, becomes entitled to call for, and to be furnished with, additional information, including such elucidating plans, sketches, and reports as it may be advised by the Board referred to in clause 12 are requisite. The aforesaid premiums cover the cost of supplying the additional information, and the Minister will not recognise any claim for payment beyond these amounts.

A deputation from the Council of the Institute waited upon Captain Collins, who is acting for Sir George Reid, High Commissioner of the Commonwealth in London, last Thursday, and laid before

him their views upon various points connected with the competition. It is hoped that as a result the High Commissioner will be in a position to make such representations to his Government that the unsatisfactory conditions will be revised and the competition placed upon a more equitable footing.

Council Appointments to Standing Committees.

The following appointments to the four Standing Committees have been made by the Council under By-law 51 :—

Art.—H. P. Burke Downing [*F.*]; Professor W. R. Lethaby [*F.*]; S. S. Reay [*F.*]; H. Heathcote Statham [*F.*]; Sir Aston Webb, C.B., C.V.O., R.A. [*F.*].

Literature.—Francis Bond, F.G.S. [*H.A.*]; J. D. Crace, F.S.A. [*H.A.*]; Theodore Fyfe [*F.*]; A. R. Jemmett [*F.*]; Andrew T. Taylor [*F.*].

Practice.—Walter Cave [*F.*]; John Hudson [*F.*]; F. W. Marks [*F.*]; J. B. Mitchell-Withers [*F.*]; H. A. Satchell [*F.*].

Science.—E. R. Barrow [*F.*]; J. P. Clark [*F.*]; J. E. Franck [*F.*]; J. H. Markham [*F.*]; H. A. Saul [*F.*].

Exhibition at University College: Proposed London School of Architecture.

The President of the Institute, Mr. Leonard Stokes, formally opened the Architectural Exhibition which has been held during the past week in the Science Library at University College, Gower Street. The exhibition comprised the drawings made during the session just closed by the day students at University College who are taking a two or three years' certificate or degree course, and by students attending the evening course of design, the cost of which is defrayed by the Carpenters' Company.

Professor F. M. Simpson [*F.*], the Professor of Architecture at the College, in explaining the arrangement of the exhibits, said that the drawings submitted by Mr. E. Unsmann, one of the degree students for Part I. of the B.A. degree, showed the standard which they hoped students would reach by the end of their third year, though he doubted whether the same high standard would be reached by the general body of students for some years to come.

Mr. Stokes, in declaring the exhibition open, congratulated Professor Simpson on the excellent standard of the work. The ladies' work, which was particularly good, struck him with amazement. It was proposed to institute a higher course of architectural training at the College. The establishment of such a course would meet a long-felt want. Many opportunities for learning were provided for the younger students, but they had not provided instruction in the higher branches, such as town-planning, to the extent that they ought to do. The advanced course which the College was now instituting would be an interesting experiment, which he had no doubt would prosper.

Dr. Gregory Foster, the Provost, in moving a vote of thanks to Mr. Stokes, said it was proposed to institute the new course, which would be one in advanced academic design, under the able guidance of Dr. J. J. Burnet, A.R.S.A., next year. But they were in need of additional accommodation. A building originally intended for the bursar's house had been made to serve the purposes of the architectural students, but it was quite inadequate. The Senate of the University of London had come to the conclusion that the needs of London and the country generally in regard to architectural education would be better met by organising one strong school of architecture rather than by maintaining two relatively weak ones—one at University College and one at King's College. It was proposed, therefore, when the funds were forthcoming for a larger building, to transfer the Department of Architecture, which had hitherto been at King's College, to University College, and house it all in one building. That would mean that Professor Elsey Smith and his staff at King's College would join Professor Simpson and his staff at University College. It would give them a strong staff, and he predicted success for the venture.

The Glasgow Institute and Architectural Training.

The Council of the Glasgow Institute of Architects has issued the following memorandum to its members on the subject of Architectural Training :—

The Council has had under careful consideration for some time the important subject of Education, with special reference to the co-relation of Office Apprenticeship with the course of study provided by the Glasgow School of Architecture. While recognising that the former must continue, as heretofore, to form the essential basis in the preparation of the young architect for his future work, the Council appreciates the advantage, and, in most cases, the necessity of combining with this his attendance at the classes of the School, leading up to the Certificate and Diploma granted by that Institution.

At the request of the School Authorities, delegates from the Council were appointed to discuss with them the matter in all its bearings, and a Special Committee was also appointed to consider their Report, and to formulate a scheme, which, while giving as much latitude as possible to individual arrangements as between employers and their apprentices, would provide for a definite allocation of the latter's time to school study.

Emphasis has been laid throughout by the School Authorities on the necessity for (1) a fairly high standard in general education before the Office or School is entered; (2) a certain proportion of the School work being taken in the form of day classes owing to the otherwise undue extension of the curriculum, and the severe tax on the student if the evenings alone are devoted to this side of his work; and (3) that one session (September to May) of whole day work, or two sessions of half-day work (either forenoons or afternoons for a like period), should be taken at, or near, the commencement. This, followed by evening classes during the remainder of the apprenticeship, with a return to day work at, or near, its close, would enable the student,

with another year or more of School and Office work, to take his "Course Certificate," qualifying him, with further study and experience, for the Diploma, all as indicated in the alternative outline schemes appended.

In the view that such an arrangement of study is in general desirable, the Council has expressed its concurrence in the case at least of all entering upon the work with the intention of becoming practising architects, and now makes the following recommendation to the members of the Institute regarding the terms on which future apprentices or pupils should be engaged:

I. That apprentices and pupils shall be required, before beginning their training, to have obtained, as a minimum, the Leaving Certificate of the Scotch Education Department, or its equivalent; and, in cases where that is not found possible, that they shall undertake to attend the Special Architectural Class at the Glasgow High School until qualified to pass the Preliminary Examination for the Diploma of the School of Architecture.

II. That the apprentice or pupil shall come under obligation to attend the full course of study as set forth in the curriculum of the School of Architecture, at least, up to the taking of the "Senior Certificate."

III. That the employer shall grant facilities for such attendance, to include during the term of apprenticeship, and in the course of the first two years thereof, not less than one session (September to May) of full day classes, or two sessions of half-day classes, with another session of day classes before its close, where possible.

IV. That the term of apprenticeship be six years, to include the time spent in the before-mentioned School day classes; that it should be entered upon following on the close of the student's general education, and before enrolment in the School of Architecture; and that, except for special causes, the engagement should not be broken, or the apprentice transferred from one employer to another during the term in question.

In making these recommendations the Council in no way implies that they should be obligatory on the members of the Institute, but they are put forward after a full study of the question, in the belief that, if followed as opportunity permits, they will be found to be to the ultimate benefit alike of the architect employer, of his assistants, and of good architecture in our midst.

Alternative Outline Schemes showing suggested Allocation of Time as between Office and School during Apprenticeship.

A.

OFFICE.		SCHOOL.
2 years,	including	1 session (9 months), full day, junior.
3 years,	,,	3 sessions evening classes, junior.
1 year,	,,	1 session full day classes, senior.

B.

2 years,	,,	1 session half-day classes, junior. (Afternoon or Forenoon.)
4 years,	,,	1 session, half-day classes, junior. (Afternoon or Forenoon.) 3 sessions evening classes, junior.

C.

2 years,	,,	1 session, full day, junior.
4 years,	,,	4 sessions evening, junior and senior.

After the Apprenticeship is concluded under Scheme A one additional session of full-day classes, and under schemes B and C two such, or a proportionately longer period of day and evening classes, are required to enable the student to obtain the "*Course Certificate.*"

This course, followed by two years' practical experience as draughtsman, with further (optional) School study, will qualify the student to enter for the *Diploma in Architecture.*

The King Edward Memorial.

At a meeting of the General Committee of the King Edward Memorial Fund at the Mansion House on the 17th July, the Lord Mayor stated that, after visiting 30 sites, the Advisory Committee had come to the conclusion that the Piccadilly end of the Broad Walk in the Green Park would be the best adapted as a site for the Memorial, and that this choice would also be approved by the King, Queen Alexandra, and the Government. They would be prepared to recommend the erection of another statue or memorial in the East-end. After considerable discussion, during which the Charing Cross site was warmly advocated, a resolution in favour of the Green Park site was carried, and the matter was referred to the Executive and Advisory Committees to select a sculptor and obtain plans and designs of the proposed monument. A proposal was brought forward that the Executive Committee should only select a sculptor after competition. The Lord Mayor objected, stating that the Advisory Committee, consisting of men of great eminence in the art world, held that if competition were insisted on it would exclude the best men in that branch of art. The monument should be designed by the most capable man. He promised that the question would be reconsidered, but asked the Committee not to tie the hands of the Executive.

The Committee have since resolved not to submit the Memorial to public competition, but to invite Mr. Bertram Mackennal, A.R.A., as sculptor, and Mr. E. L. Lutyens as architect.

Warning to Students going to Italy.

Mr. J. ff. Baker Penoyre, Secretary of the British School at Rome, writing to the Secretary of the Institute under date 1st July 1911, says:—

"I regret to have to inform you that it would be desirable to inform all students of art and architecture going to Italy this summer that they should, firstly keep to the North of Italy, and secondly make careful inquiries from time to time from such sources of information as the Consulates as to the health of any district where they may be going to work. I am afraid there is no doubt now that the health of the South of Italy, and Sicily in particular, is such that, apart from the troublesome question of quarantine, it would be unsafe to go there.

"It is not easy to draw a line between North and South Italy, and as at present advised I do not consider the situation in Rome itself grave as yet."

Heating and Ventilating Engineering.

The University of London has started a Course in Heating and Ventilating Engineering at University

College. The Course is intended for Students having a sound elementary knowledge of Mathematical Science, and intending to specialise in the practice of Heating and Ventilation. The full Course comprises a Preliminary Public Course of Lectures on "The Real Nature of the Problems in Heating and Ventilation awaiting solution by the Engineer"; a Course of Lectures on the detail of the subject; a Course of Laboratory Instruction; Experimental Research for those Students competent to undertake original work under the direction of the Lecturer; the Drawing Office. Students taking the full Course will be required to translate selected papers from French and German into English. Students who have not already a good knowledge of French and German are advised to attend Courses in the Departments of French and German, so as to be able to read those languages with ease. At the end of the Second Term, a Tour in Germany will be arranged to inspect important installations there. The Lecturer is Mr. Arthur H. Barker, B.A., B.Sc., to whom application for further particulars should be made.

The late Mr. William Clinch Poole [*A.*].

By the death of Mr. W. C. Poole, of Wandsworth Common, S.W., another of the old class of Associates has joined the majority. He had been in failing health for some time. Probably no man had more to do with laying out building estates around London and the provinces. When I met him forty years ago, he was assistant surveyor to the Conservative Land Society, subsequently becoming surveyor to that and other societies emanating therefrom. Altogether about 200 estates have been under his charge. In his later private practice dilapidation adjustment formed a large part. He was, too, a most impartial and conscientious witness in cases of light and air claims. Among his architectural work may be mentioned the chapels of Battersea Cemetery, the grounds of which he laid out. Modest and retiring, he scarcely ever attended our meetings. His brother, Mr. Geo. T. Poole, is V.P. of the West Australian Institute of Architects.—EDWARD W. HUDSON [*A.*]

CORRESPONDENCE.

"Dr. Wren," "Mr. Wren," and "Matt. Wren" in Pepys' Diary.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—In Pepys' famous diaries, there are numerous references to people named Wren, but of these only a very few seem to refer to Sir Christopher, who I suppose was at the time not knighted, and is referred to as "Dr. Wren" by Mr. Pepys.

I will take the last year of the Diary (1669) first into consideration under the date of 21st March ("Lord's Day"), where there are references both to a Mr. Wren (Secretary to the Duke of York) and to Dr. Wren; of the latter the entry is "Met Mr. May, who tells me the story of his being put by Sir John Denham's place, of Surveyor of the King's Works, who, it seems, is lately dead, by the unkindness of the Duke of Buckingham, who hath brought in Dr. Wren . . . which is an ill thing, though Dr. Wren is a worthy man. But he tells me that the King is kind to him, and hath promised him a pension of £300 a year out of the Works; which will be of more content to him than the place, which, under their present want of money, is a place that disobliges most people, being not able to do what they desire to their lodgings." Who is this Mr. May who was passed over? But in any case, seeing that Wren had been for eight years Assistant Surveyor under Denham, one fails to see the justice of Mr. May's plaint.

An interesting reference in the Diary appears under the date of 8th May 1669—"By-and-by also comes Browne, the mathematical instrument maker, and brings me home my instrument for perspective, made according to the description of Dr. Wren's in the late Transactions" etc. etc. I do not see any reference to this instrument in Mr. Weaver's interesting paper in the last number of the JOURNAL; I suppose the "Transactions" are those of the Royal Society. Another reference is under date of 1st February 1669: "To Mr. Streeter's, the famous history painter . . . and there I found him and Dr. Wren and several virtuosos looking upon the paintings which he is making for the new theatre at Oxford: and indeed they look as if they would be very fine, and the rest think better than those of Rubens in the Banqueting House at Whitehall, but I do not fully think so. But they will certainly be very noble." I find one other reference to Dr. Wren, and that is under date of 21st February 1666: "And anon he, (*i.e.* Lord Brouncker) alone with me, about the art of drawing pictures by Prince Rupert's rule and machine, and another of Dr. Wren's; but he says nothing do like squares, or, which is the best in the world, like a dark room."

The other numerous references in the diaries are to "Wren," "Mr. Wren," and "Matt. Wren"; the first two seem undoubtedly to refer to one man—namely, the one that succeeded Sir William Coventry in September 1667 as Secretary to H.R.H. the Duke of York, afterwards James II. There had been some thought that Pepys himself would get the post, but he did very well without it.

The references to Matt. Wren extend from March 1666 to November 1668, and there seems reason to suppose that this is someone different from the above Mr. Wren.

Can Mr. Weaver throw light on these points? The Secretary Wren wrote a book in answer to Harrington's "Oceana."—Faithfully yours,

PERCY L. MARKS.

LINCOLN MINSTER.

By W. Watkins [*F.*].

To avoid a danger of this correspondence degenerating into differences over inches and fractions of inches, which in no way affect the general questions at issue, I hope I shall be excused from pursuing that kind of argument, except, of course, where the figures are vital to an important point of difference; for it is immaterial to our theory whether the building is 87 feet 2½ inches wide as measured by one person, or 85 feet 11 inches as measured by another, because the whole plan of St. Hugh's part of the cathedral, extending from north to south, and from east to west, when laid out from the single dimension of 86 feet on the principle previously described, fits in with the existing foundations as accurately as any plan could be worked to, even by the best builders of the present day.

It is also immaterial whether the arches of the dark panels in the false roof, formerly the centres of the narrow bays, spring at the same level as those of the windows at each side of them, or whether they are two feet lower as they are said to be. It is fortunate that attention has been directed to the springing of this arch and to its being so much lower than those of the adjoining windows. There seem to have been good reasons for the difference, and they are really favourable to our contention that the narrow bays had solid jambs and arches, whilst the wider bays had open spaces between the front and back arcades. The shafting and orders of the arch-mouldings of these panels or windows had necessarily to follow the solid jambs and arches against which they were set; and to bring the springing of the arch down to the level of that of the clerestory arcade with which it had to range, and at the same time to keep the apex level with those of the windows outside, the arch was required to be very acute and elongated, to the extent of two feet, as shown in bay A, fig. 22.

It is likewise immaterial to our theory whether or no these panels were originally windows, as we think they were, or were always panels (as suggested by others) to reduce the weight of the walls in which they are set, because in either of these cases the architectural features as described by us for the narrow and wide bays are adaptable to these panels and pigeon holes as they now exist (see drawing, fig. 21, in the Journal of the 27th of last May, and likewise the drawing accompanying this letter, fig. 22). It is not to be imagined that this drawing (fig. 22) has been made to show an actual restoration of St. Hugh's choir, but only an indication of a kind of lancet architecture that is suggested by the "pigeon holes," as we call them, and clerestory windows; and which could have been applied to the windows and the pigeon holes and the panels as they still exist. The triforium and clerestory being of equal heights gave, of course, a bad proportion to the interior, but it should not be forgotten that in the Norman and even in its short-lived Transitional style these stages were of equal dimensions, and it is not, therefore, unreasonable to suppose that in this first development into the lancet style of architecture the former practice should have been followed. These proportions, however, lack dignity, and I suggest it was partly on that account they were altered by the reduction of the height of the triforium and the consequent increase in the height of the clerestory on adding the vaults.

The following capital letters refer to fig. 22:

(A) is one of the narrow bays, showing in dotted lines the arch of one of the dark panels, now above the vaults, with its springing two feet lower than those of the windows at each side of it (as Mr. Bilson says it is) and treated as a panel and not as a window; although with the middle shaft and dressings omitted it could have been a window, as we suggest it was.

(B) is another of these narrow bays, showing a similar panel, but treated as a window with the arch springing level with those of the other windows.

(C) is one of the narrow end bays, showing a treatment of a panel in the solid wall similar to that at the south-east corner of the choir clerestory, mentioned by Mr. Bilson as an insurmountable difficulty to our theory of wide and narrow bays.

(D) is one of the wider bays of the clerestory as it exists now, with the lines of the vaults marked upon it, showing also that peculiar ornamentation of trefoils and quatrefoils, which may be seen just above the front arches of the clerestory arcade; and likewise showing the arches which are crippled to give room for the vaults.

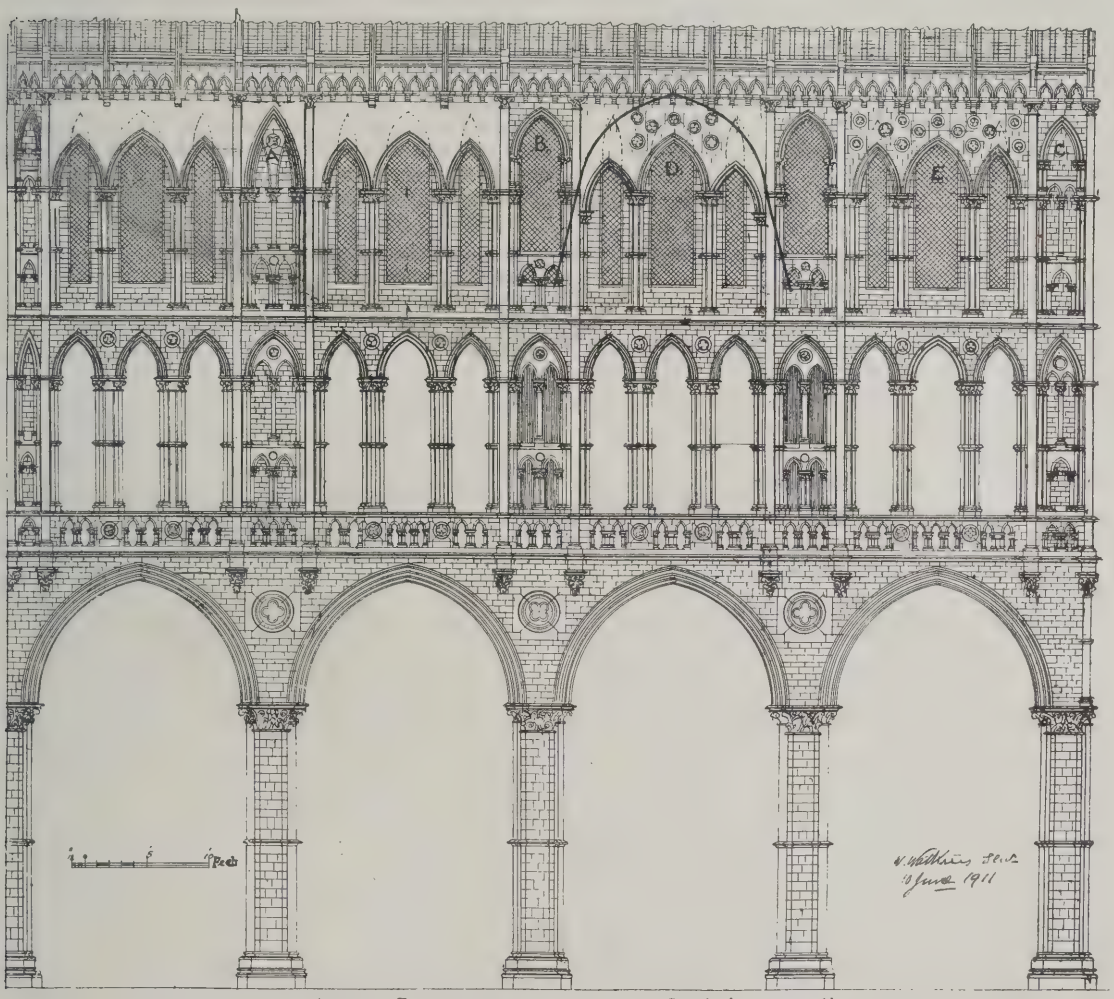
(E) is another of the wider bays showing this ornamentation extended to the full width of the space, showing also the front arcading as it probably was before the arches were crippled to make room for the vaults.*

The order in which the building was constructed, and the changes made in it during the first fifty years of its existence, must necessarily be somewhat obscure at this distance of time (now nearly seven hundred years), but I believe there is still remaining in the building sufficient evidence to enable an experienced and careful observer to trace that order.

As for ourselves, what we suggested and still believe is, that neither the face arcade of the walls of the choir aisle, nor the aisle vaults, nor the high vaults were contemplated when St. Hugh commenced his church; and that the present triforium

* It is not claimed that these bays were originally treated as shown here, for there may be a hundred better ways of dealing with them, but sufficient is indicated to prove that all the objections, of a practical nature, yet raised against our theory, are wholly met by either of the alternatives shown in these wide and narrow bays marked by the letters A to E, both inclusive.

arcades and the high vaults are not of St. Hugh's work but were afterthoughts, and were probably not constructed until the nave was practically finished ; and after the fall of the central tower in 1237. Briefly stated, that is what we set ourselves to prove, and all the remaining portions of our "Notes," which were so admirably set out and our theory explained in detail by Mr. Bond, consisted first, respecting the string course at the clerestory sill on the east side of the central transepts, which ranges with that of the passage-way sill on the western side of the same transepts. From the fact that these strings now range with each other it is inferred that no transformation of the triforium such as we allege could have taken place in these transepts, because the lowering of the clerestory



CONJECTURAL INSIDE ELEVATION OF THE RITUAL CHOIR LOOKING NORTH
FIGURE Nº 22

of the reasoning process through which we passed to enable us to arrive at our conclusions ; and unless more reasonable explanations can be given for the existence in the present building of the features to which we have directed attention, and which led us in forming our opinions, than have yet been vouchsafed to us, I for one must remain obdurate.

There are still a few points of a general character which have been raised in objection to our views which may fairly claim our further attention ; and string at one side of the transept would have placed it below the corresponding string on the other side of the same transept. But this suggestion presupposes that the whole of these transepts was built up and finished, and the string course in question set, prior to the transformation which we state was made in the triforium arcade ; whereas it is recognised by all experts that St. Hugh's work in the west walls of these transepts does not extend higher than the string course in question (nor in

my belief even so high as that by one tier of windows), and that all above that string was built after St. Hugh's time.

The alteration of the triforium and the building up of the west wall of the central transept would therefore in all probability be proceeding together, or in immediate succession to one another, and the builders would in these circumstances be sure to fix these two strings at one and the same level. There is thus no ground whatever for the suggestion that the ranging of these two strings is an obstacle to our theory.

Then we are asked, if we are right in our theory respecting the ashlar walling in the spandrils of the vaults in the pockets in the false roof of St. Hugh's choir, which we say was not constructed for vaulting, how do we account for the ashlar in similar spandrils of the nave which was always intended to be vaulted? I have inspected these spandrils and the ashlar facing they are said to contain, and I confess to a feeling of surprise that an adverse comparison should have been made between this so-called ashlar work over the nave with that over the ritual choir, because there is no space for ashlar walling over the nave, owing to the surface being almost wholly filled up with small window slits and the solid tooled masonry which surrounds them. These slits are glazed in leaded lights, and their inside openings are about 1 foot 6 inches wide each, and the jambs between them and at their sides are about 1 foot 3 inches wide, as near as one can judge them without measurement. The widths of the spandrils in the pockets vary considerably, so that in the narrower spaces there are two of these openings, and in the wider spaces three and four respectively, as spaces permitted. These openings extend from just below the wall plate to nearly, if not quite, down to the backs of the vault webs, and some of them quite down to the bottom of the pockets. The openings and tooled jambs, head and sills surrounding them, occupy practically the whole spaces of the spandrils, and there is therefore scarcely any room left for rubble walling, and to have filled in with rubble work what little space there is in steppings at each side of these irregular jambs and under some of the openings would have made patchy walls, and have increased the cost of the work; hence the absence of rubble walling above the vaults of the nave. This work as it now stands is quite consistent with what I said in my former letter about the ashlar and rubble walling over the vaults of the choir and choir transepts.

The recent criticisms of our theory have been almost entirely of a negative character, and I trust, therefore, that I shall not be considered over-exacting in inviting constructive explanations of some of the points of evidence we have advanced in favour of our theory from those who dissent from our conclusions, for instance.

(1) If the present double arcade of the walls of the choir aisles was contemplated at the commencement of the building, and was not added to strengthen the walls for supporting the aisle vaults, as we say it was, why was the face arcade not bonded into that behind it, which would have made the wall much stronger than it is now, instead of being built separate and independent with a "knife edge" between them?

(2) If the aisle vaults were not afterthoughts but were arranged for from the first, why were no wall ribs provided for supporting the vault webs on the main piers at the choir side of the north aisle?

(3) If the triforium walls were originally intended to be as thick as they are now, why were they not poised over the centres of the piers which support them, like those of the nave and Angel choir?

(4) If the triforium walls were always intended to be the same thickness as they are now, viz. 4 feet 7 inches, why were the main piers which support them made only 2 feet 8 inches thick, and why was such bad construction perpetrated as making this walling to project over to one side only, to the extent of 1 foot 7 inches, and be dependent on the vault webs for support, unless, as we say, the thickening was an afterthought made to admit double arcades being constructed to the triforia and clerestories?

(5) If the pigeon holes and panels now visible in the clerestory passage-ways are not the remains of former triforium arcades and clerestories, as we suggest they are, what were they built for, what constructional or architectural purpose do they now serve, or ever did serve, and why were they grouped in bays and systematically arranged?

(6) If high vaults were contemplated from the commencement of the building, why were deeply recessed panels made in the main walls immediately behind the springers and conoids of the vault ribs, and the walls weakened at the very points where the heaviest and strongest walls were required to resist both vertical and lateral pressure from the heavy vaults they support? and why did the builders construct wall buttresses against the backs of these skin-thick panels, if these buttresses were not added at a late period, as we say they were?

(7) If the high vaults of the choir and eastern transepts are of St. Hugh's original work, and not of a later period as we assert they are, how does it happen that, contrary to all precedent, the leading moulding of all the diagonal vault ribs is the "three-filletted bowtell," which is a characteristic moulding of the Geometrical style of Gothic architecture, and which is seldom found in the lancet period, and then only in its latest phases?

(8) If the high vaults were always intended, which we do not believe, and the present clerestory arcade is original, as we believe it is, how is it that the side arches of these triple-arched arcadings are distorted and crippled, if they were not altered

and lowered to admit of the vaults being constructed ? (See figure No. 21, accompanying my letter in the JOURNAL of the 27th of last May, and also figure 22 accompanying this letter.)

(9) If, as we assert, the clerestory arcading was originally continuous in front of the dark panels above the vaults, having triple detached shafting, and a single order of arch mouldings of exactly the same thickness (11 inches) as those of the existing clerestory arcades at each side of them, and ranging with them, and having also ashlar-faced walls behind them ; what reasons are there for the assertion that it would be necessary to reface the whole of these walls after the stripping off and removal of these independent shafts and dressings ?

(10) Then as to the central transepts, if high vaults in the central transepts were contemplated before the building was commenced, why were the piers of the main arcades at the east side of these transepts rebuilt, or cased and enlarged, at a later period than St. Hugh's time—as is evidenced by the fact that they have clustered shafts of two different styles of architecture, the round shafts being clearly of St. Hugh's time, but reinstated here probably from the original pier, whilst all the larger stone shafts are attached to the cores of the piers, with fillets 1½ inches wide down their front faces, and are therefore characteristic of the Geometrical and Curvilinear styles—if it were not for the purpose of providing stronger and more central supports to the thicker walls above them, and especially to carry the extra weight of the vaults, as all the piers of the choir (except one pair) were enlarged in a similar way ?

(11) If high vaults were always intended, why were the intermediate arches which cross the triforium gallery, and the pedestals that support them, not built into and bonded with the middle piers of the triforium arcade at one end and the outer walls at the other, if they were not later insertions ?

(12) If the experts are right in their opinion that the upper parts of the west walls of the central transepts are of later date than St. Hugh's time, would it not be consistent with our theory that the transformation of the triforium and the construction of the upper parts of these walls were continuous works, which would admit of the strings in question being fixed at equal levels ?

(13) If the clerestory walls of these central transepts from just beneath the window sills were not built up after St. Hugh's time, how is it that the intermediate buttresses outside the eastern walls were not made to rest on the cross walls in the triforium gallery, similar to those in the triforium gallery of the ritual choir, instead of being corbelled out from the outside face of the clerestory walls just above the lean-to roof of the triforium gallery ?

(14) If high vaults were contemplated from the first, and the clerestory walls were not built later than St. Hugh's time, why were any of the intermediate buttresses at the east side of the central transepts corbelled out from the external face of the wall immediately above the string which runs under the triforium gallery windows, instead of springing from the ground line like all the other buttresses of the building ? and why were the intermediate buttresses added after the lean-to roof of the triforium was constructed, unless it was to support the later constructed vaults ?

(15) If these clerestory walls and the upper portions of the west walls of these central transepts, together with the construction of the high vaults, are portions of St. Hugh's original work, why were the dark panels which exist in all St. Hugh's other work, and which are said to have been made to reduce the weights of the walls, altogether omitted above the vaults of these transepts ; and why were all the walls above these vaults, like all those of St. Hugh's other work, where they were rebuilt or refaced after St. Hugh's time, constructed and faced in rubble walling instead of ashlar, unless, as we say, they were built after it was decided to vault these transepts ?

The above fifteen points are selected from amongst many others of a similar character, every one of which, when reasonably interpreted, appears to us to lead up to and support our conclusions ; but if anyone can put a more reasonable interpretation upon them than we have done it will be heartily welcomed, for we are most anxious to solve the mystery which has been hanging over St. Hugh's work in Lincoln Minster for so many years. It is in no captious spirit that I put the matter in this categorical way, but rather in the hope of confining the discussion to the narrowest reasonable limits.

Books Received.

The English Staircase : an Historical Account of its Characteristic Types to the End of the Eighteenth Century. By Walter H. Godfrey. Sm. 4to. Price 18*s*. B. T. Batsford, 94 High Holborn.

The Practical Design of Reinforced Concrete Beams and Columns. By W. Noble Twelvetrees. 8vo. Price 6*s*. net. Whittaker & Co., 2 White Hart Street, Paternoster Square, E.C.

The Principles of Planning Buildings : an Analytical Treatise for the Use of Architects and others. By Percy L. Marks, architect. 3rd edition. Revised and enlarged, with many additional examples. 8vo. Price 12*s*. net. B. T. Batsford, 94 High Holborn.

Le Palais de Dioclétien à Spalato : Notice de M. Jacques Zeiller. Pamph. 8vo. Paris, 1911. Ch. Massin, éditeur, 51 Rue des Ecoles, Paris.

III[e] Congrès International d'Hygiène Scolaire. Royal 8vo. Paris, 1910. A. Maloine, éditeur, 25-27 Rue de l'Ecole-de-Médecine, Paris. 3 vols. :

I. Rapports, 750 pp.
II. Résumés de Rapports et de Communications. 500 pp.
III. Compte-Rendu : Communications, 1014 pp.

REVIEWS.

CIVIC ART.

Civic Art, Studies in Town Planning, Parks, Boulevards, and Open Spaces. By T. H. Mawson, Hon. A.R.I.B.A. Lecturer on Landscape Design at the University of Liverpool. Fo. Lond. 1911. 50*s. net.* [*B. T. Batsford, 94 High Holborn, W.C.*]

This handsome and beautifully appointed volume, dedicated to the Right Honourable John Burns, is substantial, but not very original or comprehensive. It goes over generally familiar ground, and most of the schemes commented upon are already commonly known to the professional student. The photographs and illustrations are largely old favourites, also the particular examples of Town Planning which Mr. Mawson describes are too often unrepresentative, and those with which he has had personal associations.

The present volume is supplementary to the "Art and Craft of Garden Making," by the same author, and is divided into four sections, well printed and illustrated, with a fine system of marginal notes and appendices. It was originally intended to pertain to landscape gardening, and the treatment of parks, gardens, and boulevards. It has, however, been expanded by its author also to embrace the theory and practice of Civic Art. In most of the schemes with which the author has been associated, such as those at Dunfermline, Bolton, Perth, Port Sunlight, Glyn Cory, etc., he is to be congratulated on having such able coadjutors as the late Mr. Dan Gibson, Mr. C. E. Mallows, Mr. Robert Atkinson, etc. Still, it is to be regretted that he does not show more representative examples of such schemes.

It is no doubt a sign of the times that the general public take an interest in such books, but the professional student will probably find more useful to him the many excellent works already published treating of the historical, sociological, scientific, and engineering aspects of this wide subject.

It is, perhaps, to be regretted that Mr. Mawson had not carried out his original intention of limiting the scope of his book to the treatment of landscape architecture in its application to parks, gardens, and boulevards. The chapter he gives us on park systems and open spaces is one of the most interesting. They are classified as, 1st, The Town Square; 2nd, the Small Recreation Ground; 3rd, The Public Park; 4th, Reservations; 5th, Connecting Parkways, Drives and Boulevards.

Mr. Mawson points out that most of our important parks and gardens, especially in great towns such as London, are isolated, and if it is desired to pass from one to the other we must generally do so through more or less sordid streets. He lays down also two recognised principles of park development, the "Radial" and the "Encircling."

An old town on an historical foundation usually starts from a congested centre, straggling out into the country along the routes of the highways radiating from it. It is on the unoccupied land between those highways that the radial system of parkways would naturally be developed. An encircling boulevard with parkway would afford a logical completion to such a radial system.

Whatever principles are adopted they are merely guides pointing out the general direction park expansion should take. The natural features, contours, etc., will inevitably lead to modifications, but a principle of park allotment is necessary, and a most urgent matter involved is that of providing arteries for fresh air.

Parks and parkways are, physiologically speaking, the lungs of the city. Mr. John Burns recently said that, "In fifty years London will stretch from Hayward's Heath to Northampton." Recent evidence shows that this is by no means the assertion of a visionary. Consequently, it is the more necessary to effect a compromise as soon as possible between the ideal and the practical, between what might be and what is now proposed. "With this in view immediate action should be taken under the Town Planning Act to prevent further encroachment on the routes to be used, remembering that every day that is lost in procrastination or in the formal business connected with the preparation of a scheme under the Act will make the problem more and more difficult and costly."

The book finishes with appendices showing the various trees, shrubs, and evergreens most suitable to Town Planting, with the soil they favour and the localities in which they should be planted.

DAVID BARCLAY NIVEN [*F.*].

LIVERPOOL SCHOOL OF ARCHITECTURE.

An exhibition of students' work of the School of Architecture of the University of Liverpool was held from the 5th to the 8th July. The Exhibition comprised measured work and designs of students of two years and over for the certificate in Architecture, and also work of first-year students. Throughout the designs a strong feeling of the American School is perceptible, while French influence permeates the whole. The designs are as a whole academic, good in proportion and feeling. Some of the work of first-year students was really remarkable, notably designs for a tramway shelter and a mausoleum by W. H. Thompson, and work by A. R. Sykes. An excellent set was shown in the examination design of thirty hours; those of W. E. Davies and H. C. Mason were especially worthy of inspection, the former showing French influence and the latter consisting of a rather severe classic composition. Turning to the two-year work, H. C. Mason had a very fine set of measured drawings of Blenheim Palace for the Travelling Studentship (a monumental work which we hope to see fully illustrated), and a measured drawing of a portion of the portico of St. Andrew's Church, Rodney Street. Mr. Mason showed also

a delightful design for the terrace and steps to a public building in a park, a good though severe design for a mausoleum, a design for a monument to Nelson in St. Paul's Cathedral illustrated by a clever perspective, and an excellent design for an approach to a riverside town. A design for a screen joining the wings of a public building was fair; also a design for a tomb of a man of letters. V. H. Hughes had a fine set of measured drawings of the Chapel of Trinity College, Dublin, and good sheets of details; also measured work of York Stairs, Charing Cross, and designs for a screen between buildings, a town house, and landing stage and monument. A. Shelmerdine had an excellent set of measured drawings of the Apothecaries' Hall, Colquitt Street, Liverpool, with details, and clever designs for a ballroom for a large country house and a car shelter. Ernest Gee, Holt Travelling Scholar, showed a beautiful set of drawings of the Musée Galliera, Paris; and from the British School at Rome came delightful sketches of a portion of the Temple of Neptune, Pæstum, and of the Porta Palio, Verona. E. C. Preston had also a fine set of measured drawings of the Apothecaries' Hall, Liverpool, together with a design for a tomb, a mausoleum, a landing place, a monument to a naval hero, and a town house. H. C. Bradshaw showed nicely coloured measured drawings of the Bank of England, Castle Street, Liverpool, one of Cockerell's finest examples. W. E. Davies had measured drawings of Trinity College Chapel, Dublin, The Lodge, Princes Park, Liverpool, and St. James's Chapel, Liverpool; also excellent designs for a monument and landing stage to a riverside town, a monument to a naval hero, a colonnade, and a town house. J. E. Chambers had some very fine measured drawings of the Ecole Militaire and the Palais de Justice, Paris, together with designs for a Cotton Exchange and some pleasing freehand sketches. J. Williams showed a successful set of measured drawings of Government Buildings, Victoria Street, Liverpool, a delightful building which also we hope to see reproduced; a clever design for a monument to Nelson suggested to be erected under one of the arches of the Nave arcade in St. Paul's, and some good designs for a landing place and a town house. Maurice Lyon was represented by a fine design for a church tower and a railway terminus on extremely satisfactory lines. There were also shown designs for a block of seven cottages for prizes of £25, £10, and £5 given by Sir W. H. Lever. Visitors were introduced to the Exhibition by two very attractive posters by H. C. Bradshaw. Altogether we were much impressed with the great advance made in the work generally and the uniformity of excellence in the style and taste displayed. Unquestionably Professor Reilly is to be sincerely congratulated on the life and vigour of the School.

T. E. Eccles [*F.*].

THE SUMMER EXAMINATIONS.

The Preliminary.

The Preliminary Examination, qualifying for registration as *Probationer R.I.B.A.*, was held in London and the provincial centres indicated below on the 12th and 13th June. Of the 146 candidates admitted, claims for exemption from sitting were allowed to the number of forty-four, and the remaining 102 candidates were examined, with the following results :—

Centre	Total Examined	Passed	Relegated
London . . .	50	36	14
Bristol . . .	12	11	1
Leeds . . .	8	7	1
Manchester . .	27	23	4
Newcastle . . .	5	4	1
	102	81	21

The passed candidates, with those exempted—125 altogether—are as follows :—

AFIFY : Mohamed; 48 Ackers Street, Oxford Road, Manchester.
ALDRED : James Taylor; 64 Railway Road, Leigh, Lancashire.
ASHENDEN : Harold Campbell; Ventnor House, London Road, Canterbury.
ASLIN : Charles Herbert; 73 Lennox Road, Hillsboro', Sheffield.
ASTLEY : Percy Armitage; Glebe Place, Marsh, Huddersfield.
BACKHOUSE : Clifford Gerald; Rydal Cottage, Ash Road, Headingley, Leeds.
BAILY : Bruce William Seymour Stiles; 28 Thornhill Road, Mannamead, Plymouth, Devon.
BALDWIN : Herbert Donald; 40 Quarry Hill, Tonbridge, Kent.
BALDWIN : Walter; Holly Bank, Sale.
BEAVERSTOCK : Horace; 118 Newstead Grove, Nottingham.
BEGLEY : William Walter; 168 Liverpool Buildings, Station Road, Highbury, N.
BELL : Noel John Byron; Haverian College, Victoria Park, Manchester.
BONSER : Kenneth John; 160 East Dulwich Grove, S.E.
BOWES : Roy; 293 Oldham Road, Failsworth, Manchester.
BRAID : William; Kingsland Lodge, Stuart Place, Colombo, Ceylon.
BRIDGE : Joseph; 15 Bridgewater Road, Walkden, near Manchester.
BRINCKMAN : Rowland Egerton; c/o Miss M. Baxter, 2 Mortimer Road, Clifton, Bristol.
BUCKNOLE : Edward Hallett; 51 Walpole Road, Boscombe, Hants.
BULL : Joseph William; 55 Carlingford Road, Green Lanes, N.
BURLEIGH : Harold; 7 Priory Road, West Hill, Hastings.
BURNETT : Edgar; Weir House, Hickling, Melton Mowbray.
BURTON : Dudley James McPherson; "Dunain," 92 Pier Avenue, Clacton-on-Sea.
BYRT : Stanley Howe; 12 Ashley Hill, Bristol.
CAPES : Gareth Wilfred; 5 Kensington Square, W.
CHEEK : Cyril Cliff; 4 Balham Park Mansions, Balham, S.W.

CHRISTIE: Christopher; 13 Greenlaw Avenue, Paisley.
CLOUGH: Albert Rowland; "Highthorn," Main Road, Handsworth, near Sheffield.
CLOUGH: Ernest; Manners House, Haswell, near Sunderland.
COOKE: Robert McDowall Fothergill; Burnside, Prestbury, Gloucestershire.
COOPER: Frank Douglas; "High Beech," St. Matthew's Drive, St. Leonards.
CROUCH: Gerald Linford; High Street, Rottingdean, Sussex.
DAVIES: Idris; "North View," Milton Road, Weston-super-Mare.
DERRY: Charles; H.M. Office of Works, 22 Carlisle Place, S.W.
DOBSON: Richard; c/o G. E. Bolshaw, 106 Lord Street, Southport.
DODDINGTON: William; 133 St. Asaph Road, Brockley, S.E.
EDWARDES-EVANS: John; Ringway Vicarage, Altrincham.
EVANS: Eric Ewart; 86 Maiden Lane, Clubmoor, Liverpool.
EVANS: Thomas Cwmanne; 61 Munster Road, Fulham.
EVELEIGH: Graham Tom; "Martinhoe," Wembdon Road, Bridgewater.
FARRER: John Camplin; 2 Coleman Street, E.C.
FOALE: William Ernest; 29 Aldridge Road Villas, Westbourne Park, W.
FORSTER: Thomas; Architects' Office, North-Eastern Railway, York.
FRATER: Robert; c/o Mrs. Hall, Rosetta Park, 2 Knockbreda Road, Belfast, Ireland.
FYFE: Nelson; 24 Broughton Place, Edinburgh.
GOODYEAR: John Gorbell; "Summerhill," Hythe, Kent.
GOSTLING: Wilfrid Bernard; 42 Bowling Road, Ware, Herts.
GRAHAM: Robert McGregor; Red Hall, Quadrant Road, Newlands, Glasgow.
GRICE: William Stanley; Chapel House, Mattock Lane, Ealing, W.
GRIFFITHS: Edgar Rees; "Penbryn," Burry Port, Carmarthenshire.
GUSH: William George; Taunton School, Taunton.
HALL: Daniel Carby; Church House, Roundhay, Leeds.
HARDING: Charles Alfred; 46 Kersland Street, Hillhead, Glasgow.
HATHERELL: Eric James; 52 Croxted Road, Dulwich, S.E.
HAYTON: Arthur James; 751 Ashton New Road, Clayton, Manchester.
HEAD: George Leslie; 12 Mapesbury Road, Cricklewood.
HEYWOOD: Leonard; 591 Chorley Old Road, Smithills, Bolton.
HONOUR: Stanley; 4 Stockwell Park Road, S.W.
HORSLEY: Roland Cantis; "Vyse Lodge," Emsworth, Hants.
IZZY: Hussein; 65 Belsize Park Gardens, Hampstead, N.W.
JARVIS: Harold Edgar; "Rylstone," Godstone Road, Rotherham.
JENKINS: Frederick George Hayes; 11 Alma Terrace, Arthur Road, Windsor.
JONES: Charles Frederick; 9 Howard Gardens, Cardiff.
JONES: Ieuan Roland; 11 Gloddaeth Crescent, Llandudno.
JONES: Robert David; Min-y-don, Borth-y-Gest, Portmadoc.
JONES: Westbury Lloyd; Bronheulog, St. David's Road, Carnarvon.
JOHN: Lewis; 18 Vicarage Terrace, Cwmpark, near Treorchy, Glamorgan.
KELHAM: Cecil Herbert Langdale; Tangley Croft, Epsom, Surrey.
KELLEY: Norman; 12 Elms Avenue, Lytham.
LAMBERT: Frederick Henry; 52 Lorne Road, Lowestoft.
LANGLANDS: Cecil Walter; Mazon House, Epsom, Surrey.
LAPIERRE: Robert Tattersall; 64 Werneth Hall Road, Oldham.
LAWSON: Joseph Frank; St. Ringer's, Cirencester, Glos.
LEDGARD: William Armitage; Manor House, Thorner, Leeds.
LISTER: Harold Alfred; 8 Wyle Cop, Shrewsbury.
LLOYD: Albert; 5 The Promenade, Swansea.
LOGAN: James; 24 Crown Street, Newcastle-on-Tyne.
LOMER: Ernest Cecil; Ashdene, Regent's Park, Southampton.
LOWETH: Sidney Harold; 67 Downs Park Road, Hackney, N.E.
McBEATH: John Gordon; Birnam House, Sale.
MACKELLAR: Robert Norman Houghton; 3 Cathkin Road, Langside, Glasgow.
MACKENZIE: Gilbert Marshall; 28 Albyn Place, Aberdeen.
MACPHERSON: Malcolm Munro; The Manse, Elgin.
MARSHALL: George Andrew; 42 Canonbury Park South, N.
MATHER: Robert Arthur; 9 "Briardene," Moston Lane, New Moston, Manchester.
MEREDITH: John Nelson; Loggerhead, Mold, North Wales.
MORRIS: William Alexander; 10 Bolton Road West, Ramsbottom, Lancashire.
MORTIMER: Alan Lee; 23 Langham Avenue, Sefton Park, Liverpool.
MOSS: Donald John; 44 Linden Grove, Peckham Rye, S.E.
MOSS: Thomas Whitfield; 2 Bolling Road, Ben Rhydding, Leeds.
NEWBOULT: Bernard; Thorn Lea, The Grove, Shipley, Yorks.
NORMANTON: Joe; Ivy House, Barkisland, near Halifax.
OWENS: William Richard; 98 Anfield Road, Anfield, Liverpool.
PARKIN: William Gordon; 24 Bloomsbury Square, W.C.
PARTRIDGE: Leslie Horton; "St. Olave," Church Road, Forest Hill, S.E.
PERCIVAL: Francis Burlinson; Holly Lodge, Parkside Avenue, Wimbledon, Surrey.
PICKIN: Robert William; Highfield Bungalow, Kirkby-in-Furness.
RADCLIFFE: James; Furlane, Greenfield, *via* Oldham.
RADNOR: Cyril Bland; 11 Peascod Street, Windsor, Berks.
RAGHUNATH: Vasant; 36 Alexandra Road, Finsbury Park, N.
REES: Frederick William; 2 Graigwen Place, Pontypridd.
REEVE: Edmund Arthur; Somerset Villas, 38 St. Peter's Road, Margate.
RIDGE: Ernest Claude; 8 Barbican Terrace, Barnstaple.
ROLFE: Edwin Frederick; 51 Blandford Street, Baker Street, W.
ROSE: George Alfred; 54 King's Road, Wimbledon, S.W.

ROWNTREE : Edward Gilbert; Dormers, Wells, Southall.
RUTHERFORD : John Newton; 16 Eller Vale, Harrington, Cumberland.
SACRÉ : Lester Howard; East Hanningfield, Chelmsford.
SAGE : John Leigh Percy; Taunton School, Taunton.
SCHULKE : Paul C.; 337 City Road, Islington, E.C.
SKELDING : Percy; 28 Cromwell Road, Montpelier, Bristol.
STOBBART : Foster Rowland; 6 Crossley Terrace, Newcastle-on-Tyne.
STYTHE : Ernest Tudor; "Avallon," Carnarvon.
SWALLOW : Joseph Cedric; 2 Baldock Road, Letchworth.
TAYLOR : Martin Bartley; 37 Wheelwright Road, Gravelly Hill, near Birmingham.
THORBURN : Richard, jun.; c/o Mrs. Reilly, Methil Brae, Methil.
TRIGG : Gilbert John; "Highfield," Wickham, Hants.
TRIPP : William Maurice; "Clovelly," 26 Richmond Road, Altrincham, near Manchester.
VENN : George Oswald; "Featherfield," Latchford, Warrington.
WATERLOW : Adrian; 1 Maresfield Gardens, Hampstead, N.W.
WILSON : Stephen Grylls; 237 Upper Brook Street, C.-on-M., Manchester.
WINEBAUM : Goodman George; 13 Shiplake Buildings, Boundary Street, Bethnal Green, E.
WINGROVE : Edmund Percy; "Ethelston," Beaconsfield, Bucks.
WORTH : James Gerald; Knight's House, Royal Masonic School, Bushey, Herts.
WRIGHT : Sydney; 16 Derbe Road, St. Anne's-on-Sea.
YETTS : Laurence Muskett, B.A.Cantab.; 47 Finsbury Pavement, E.C.

The Intermediate.

The Intermediate Examination, qualifying for registration as *Student R.I.B.A.*, was held in the undermentioned provincial centres on the 12th, 13th, 15th, and 16th June; 127 candidates were examined, with the following results :—

Centre	Total Examined	Passed	Relegated
London	85	37	48
Bristol	15	9	6
Leeds	5	3	2
Manchester . . .	13	4	9
Newcastle . . .	9	6	3
	127	59	68

The passed candidates, given in order of merit as placed by the Board of Examiners, are as follows :—

P.=Probationer.

PARK : William [*P.* 1904]; 9J Grove End Road, St. John's Wood, N.W.
PAGE : Thomas Alexander [*P.* 1907]; 14 Ravensbourne Terrace, South Shields.
MARCH : John Ewart [*P.* 1909]; Axbridge, Somerset.
MATTHEWS : John Bredel [*P.* 1907]; 24 Piercefield Place, Roath, Cardiff.
DONALDSON : Benjamin [*P.* 1909]; 238 Chillingham Road, Heaton, Newcastle-on-Tyne.
CLARKE : James Andrew [*P.* 1908]; 581 Cheetham Hill, Manchester.
FERGUSON : Robert Wemyss [*P.* 1910]; 25 Murrayfield Gardens, Edinburgh.
BENNETT : Philip Dennis [*P.* 1909]; 52 Farquhar Road, Edgbaston, Birmingham.
WYATT : Philip Humphry [*P.* 1908]; 39 Welbeck Street, Cavendish Square, W.
CHALKLEY : Thomas Henry [*P.* 1910]; 42 Grange Road, Bermondsey, S.E.
LONE : Reginald Wilcox [*P.* 1908]; Glengeldie, Montalt Road, Woodford, Essex.
CRONE : Harold [*P.* 1906]; 6 Selborne Road, Hove, Sussex.
CRASKE : Clifford Wigg [*P.* 1909]; 14 Elvin Road, East Dereham, Norfolk.
HARRIS : Leslie Youngman [*P.* 1906]; Clinton Terrace, The Park, Nottingham.
BROWN : Collings William [*P.* 1908]; 24 Bloomsbury Square, W.C.
FREAKER : Allan Lionel [*P.* 1909]; 12 Culmstock Road, Clapham, S.W.
McLACHLAN : Robert [*P.* 1909]; 23 Clarendon Road, Lewisham, S.E.
THOMERSON : Harold Albert [*P.* 1906]; Holmby House, Kenninghall Road, Upper Clapton.
FISHER : Stanley Howe [*P.* 1910]; "Elmsthorpe," 37 Barrington Road, Brixton, S.W.
MARCHINTON : James Edward [*P.* 1908]; 32 Bannerdale Road, Millhouses, Sheffield.
ODOM : John Henry [*P.* 1908]; Norton Lees Vicarage, Sheffield.
HOLDEN : William [*P.* 1907]; Lindenhurst, Cockton Hill, Bishop Auckland.
LAST : Frederic Bertram [*P.* 1906]; The Elms, Crayford, Kent.
CLEMES : Francis [*P.* 1908]; "Roebourne," Grove Park Road, Weston-super-Mare.
PHILLIPS : Rees [*P.* 1907]; "Delamere," Parsons Green, S.W.
PRICE : William Harold [*P.* 1906]; 57 Wellington Road, Bridgwater.
WALKER : Denis Henry [*P.* 1905]; 34 Westbourne Avenue, Hull.
ALLISON : William [*P.* 1907]; 82 Bramfield Road, Wandsworth Common, S.W.
WEINBERG : Judah [*P.* 1906]; c/o R. Frank Atkinson, Esq., 8 Sackville Street, Piccadilly, W.
LOVE : Robert Maclaren [*P.* 1910]; The Elms Farm, Littleover, near Derby.
SEMPLE : William London [*P.* 1908]; Glenavon, Moorside, Fenham, Newcastle.
WILLSON : Ernest [*P.* 1910]; 3 Rutland Road, Southport.
BURNETT : Andrew Stuart [*P.*]; Shawford Down, Hampshire.
ARCHIBALD : Howard Moir [*P.*]; Hôtel des Ecoles, 15 Rue de Lambre, Paris.
BANKS : William Arthur [*P.* 1905]; Conway Terrace, Corporation Street, Stafford.
BENISON : Norman Spencer [*P.* 1906]; 24 Harrington Square, N.W.
BRAMWELL : Guy [*P.* 1906]; 19 Reginald Terrace, Leeds.
BROOMHALL : Thomas Hargreave [*P.* 1905]; Haigh Hall, near Barnsley, Yorkshire.
CHARD : Charles Norman [*P.* 1907]; "Parkside," Westfield, Bridgwater, Somerset.
CHINE : William Wilmot Thorne [*P.*]; 17 New Cavendish Street, Portland Place, W.
COPPLESTONE : Thomas Stapledon [*P.* 1909]; 87 St. Sidwells, Exeter.
ERRINGTON : Lancelot Ralph Gawen [*P.* 1906]; 5 York Terrace, Regent's Park, N.W.
FRANCIS : Eric Carwardine [*P.*]; 16 Steeles Road, Haverstock Hill, N.W.
GODWIN : William Hubert [*P.* 1907]; 6 Second Avenue, Selly Park, Birmingham.

HANDS : Joseph Garnet [*P.* 1903]; 9 Johnson Mansions, Queen's Club Gardens, West Kensington, W.
HICKMAN : Ernest James [*P.* 1909]; 101 Kingswood Road, Moseley, Birmingham.
JENKINS : Trevellyn P. [*P.* 1908]; 4 Goat Street, Swansea.
LEDGER : Godfrey Horton [*P.* 1906]; Grove Lodge, Epsom.
LEGG : Theodore Ellis [*P.* 1906]; Tintern, Mornington Road, Woodford Green.
MEADOWS : Samuel Douglas [*P.* 1908]; 112 Caledon Road, East Ham, Essex.
MOORE : Harold Edward [*P.* 1906]; c/o H. B. Creswell, Esq., 10 Elborow Street, Rugby.
MORLEY : Cyril Savage [*P.* 1911]; 44 Bromley Road, Beckenham, Kent.
NEWTON : Cuthbert Edward [*P.* 1907]; Ashleigh, 3 Shearwood Road, Glossop Road, Sheffield.
NANDI : Rashbehari [*P.* 1910]; 5 Rochester Terrace, N.W.
NORTON : Bernard George [*P.* 1907]; Cumberland House, Leamington.
TERRELL : William Edward Wallis [*P.* 1909]; 102 Kendrick Road, Reading.
TOPHAM : Geoffrey Ronald Gilbertson [*P.* 1908]; 22 Crooms Hill, Greenwich.
TOWNLEY : Arthur Eric [*P.* 1909]; Ivyleigh, Oakfield Road, Selly Park, Birmingham.
YOUNG : Roland Keith [*P.* 1908]; 7 Bramham Gardens, South Kensington, S.W.

The following table shows the number of failures in each subject of the Intermediate Examination :

I. Classic Architecture	41
II. Mediæval Architecture	47
III. Renaissance Architecture . . .	66
IV. General Questions	48
V. Theoretical Construction . . .	36
VI. Descriptive Geometry	31
VII. Applied Construction	48

Colonial Examination.

The following candidate passed the Intermediate Examination held in Sydney in January last—viz. :

KEESING : Gordon Samuel; c/o Messrs. Kent & Budden, 129 Pitt Street, Sydney, N.S.W.

Exemptions from the Intermediate Examination.

The following Probationers, possessing the qualifications required by the regulations, have been exempted from sitting for the Intermediate Examination and have been admitted as Students R.I.B.A. :

ADAMS : Percy Joyce; "Rocklands," Palmerston Road, Buckhurst Hill, Essex [Architectural Association School].
ANDREWS : Percy Maguire; 7 Tavistock Mansions, Tavistock Place, W.C. [Architectural Association School].
AYLWIN : Guy Maxwell; 8 West Street, Farnham, Surrey [King's College Architectural School].
BHOWNAGGREE : Nasserwanji Mancherji Merwanji; 42 Harrington Road, South Kensington, S.W. [King's College Architectural School].
GRIFFIN : Douglas Morley; c/o G. R. Cripps, Esq., Ashley, Prenton Hill, Birkenhead [Liverpool University School of Architecture].
HARDING : Charles Alfred; 46 Kersland Street, Hillhead, Glasgow [Glasgow School of Architecture].
MOSS : Harold Edward; 46 Putney Hill, S.W. [Architectural Association School].
OWENS : William Richard; 98 Anfield Road, Liverpool [Liverpool University School of Architecture].
PRITCHARD : Ivor Mervyn; Gwynfa, Beaumaris, Isle of Anglesey [Architectural Association School].

The Final and Special.

The Final and Special Examinations, qualifying for candidature as *Associate R.I.B.A.*, were held in London from the 29th June till the 7th July. Of the 136 candidates examined, 59 passed, and the remaining 77 were relegated to their studies. The passed candidates are as follows—the † prefixed to a name signifying that the candidate entered for the Special Examination, which is designed for architects in practice and chief assistants exempted by the Council from the Preliminary and Intermediate Examinations and from submitting Testimonies of Study :

[S. = *Student.*]

ADAMS : Maurice Spencer Rowe [*S.* 1909]; "Edenhurst," Bedford Park, Chiswick, W.
ANGUS : Laurence Mortimer, M.A. [*S.* 1910]; 96 Heath Street, Hampstead, N.W.
†BARKS : Edward Ernest [*Special*]; 39 Oakley Crescent, Chelsea, S.W.
†BAXTER : Paget Logan [*Special*]; 37 Cambridge Street, S.W.
BENIANS : Hubert Joseph [*S.* 1908]; 2 Beresford Road, Goudhurst, Kent.
BENSLYN : William Thomas [*S.* 1905]; "Kylemore," Chesterton Road, Cambridge.
BESSANT : John Archibald [*S.* 1910]; 16A Eton Road, Haverstock Hill, N.W.
BEVIS : Richard Henry Percy [*S.* 1906]; Elm Grove Chambers, Southsea.
BLACKFORD : Arthur George [*S.* 1907]; 12 King's Avenue, Ealing, W.
BROAD : Kenneth Stephen [*S.* 1909]; 166 West Hill, Putney, S.W.
BROWN : Baldwin [*S.* 1903]; 19 Leamington Street, Bradford.
BROWN : Murray [*S.* 1910]; 55 Southampton Row, W.C.
BULLOCK : John Edgar [*S.* 1907]; Fernleigh, Blackheath, S.E.
CLARKE : Leonard Harris [*S.* 1910]; "Hawkstone," 38 Dragon Parade, Harrogate.
DAVIES : Joseph Charles Gladstone [*S.* 1909]; Tanyrallt, Morriston, Glamorgan.
DAVIES : William Frederick [*S.* 1907]; Brook House, Saughall Road, Chester.
†DAVIS : Charles [*Special*]; 58 Pennard Road, Shepherd's Bush, W.
†EDESON : Charles Alva [*Special*]; 65 Park Grove, Derby.
EVANS : Arthur Frederic [*S.* 1908]; Fazakerley House, Prescot, Lancashire.
FINNING : Leonard John [*S.* 1907]; "Sand Rock," Pinhoe, Exeter.
GARBUTT : Wilfred Thomas [*S.* 1909]; 7 Blenheim Mount, Bradford, Yorks.
GOODWIN : Bernard Malcolm [*S.* 1906]; Hurst View, South Park Hill Road, Croydon, Surrey.
GORRINGE : Wilfred S. [*S.* 1907]; 88 Clinton Place. Seaford, Sussex.

HAKE : Guy Donne Gordon [*S.* 1909]; 9 Park Mansions, South Lambeth Road, S.W.
HARDING : Charles Alfred; 46 Kersland Street, Glasgow, W.
HOME : Geoffrey Wyville [*S.* 1909]; 99 Gunterstone Road, West Kensington, W.
HOWITT : Thomas Cecil [*S.* 1908]; Brooklyn, Hucknall Torkard.
KEASLEY : John Norman [*S.* 1904]; "The Hawthorns," Meadvale, Redhill.
KNIGHT : Frank Wardel [*S.* 1909]; 9 Wellington Square, Chelsea, S.W.
LAWSON : Wilfrid [*S.* 1909]; 41 Woodbine Street, Gateshead-on-Tyne.
LEROY : Adrien Denis [*S.* 1909]; 21 Gore Road, South Hackney, N.E.
LOGAN : Philip Norman [*S.* 1908]; Eastfield, Southville, Bristol.
LONG : Charles William [*S.* 1908]; 108 Leigham Court Road, Streatham, S.W.
LUCAS : William [*S.* 1908]; 59 Weltje Road, Hammersmith, W.
MARTIN : Moritz Richard [*S.* 1905]; 14 Woodfield Road, Ealing, W.
MENNIE : Frederick Edward [*S.* 1907]; 46 Harford Street, Mile End, E.
†MERRIMAN : Harold Ian [*Special*]; 27 Young Street, Kensington West.
MOTTRAM : Alfred Hugh [*S.* 1910]; 18 Denning Road, Hampstead, N.W.
OWEN : George Burgoyne [*S.* 1909]; 7 Belsize Grove, Hampstead, N.W.
PARKER : Thomas Abel [*S.* 1908]; 37 Hall Street, Colne, Lancashire.
PATERSON : John Wilson [*S.* 1909]; Verbena Villa, 3 Sciennes Gardens, Edinburgh.
PRITCHARD : Ivor Mervyn [*S.* 1909]; Gwynfa, Beaumaris, Isle of Anglesey.
SAMSON : Hayward Lewis [*S.* 1904]; Ixworth Court, Palace Road, Streatham Hill, S.W.
SCOTT : Bernard Wardlow Habershon [*S.* 1909]; 125 Rodenhurst Road, Clapham Park, S.W.
SWANNELL : Charles Malcolm [*S.* 1908]; 4 Delaporte Gardens, Muswell Hill.
SWINDELLS : Francis Harold [*S.* 1909]; Longton Hall, near Preston, Lancs.
TAPPER : Michael John [*S.* 1908]; 10 Melina Place, St. John's Wood, N.W.
THORNTON : Harold [*S.* 1905]; West Croft, Dewsbury.
TICKLE : Arthur George Warnham [*S.* 1906]; Bassishaw House, 70A Basinghall Street, E.C.
WEST : Harry [*S.* 1906]; 312 Upland Road, East Dulwich, S.E.
†WESTBYE : Johannes Thorwaldsen [*Special*]; 1 Princess Road, Primrose Hill, N.W.
WHITEHOUSE : Arthur Eli Mitchell [*S.* 1907]; 12 Gibsons Road, Heaton Moor, near Stockport.
WIGZELL : Norman [*S.* 1908]; 8 Belle Vue Park, Sunderland.
WILLIAMS : Llewellyn Ebenezer [*S.* 1909]; "Upwood," Bridle Road, Purley, Surrey.
WILSON : Allen Woodward [*S.* 1903]; "Brinkdale," Park Road, Peterborough.
WINTER : Cecil Reynolds [*S.* 1907]; c/o G. A. Bligh Livesay, Esq. [*F.*], Christchurch Road, Bournemouth.
WORMALD : Harry [*S.* 1904]; 28 St. Luke's Road, Beeston Hill, Leeds.
WRIGHT : Christopher [*S.* 1907]; 19 Connaught Street, Hyde Park, W.
YOUNG : Allan Murray Campbell [*S.* 1905]; "Dalry," Marryat Road, Wimbledon Common, S.W.

The following table shows the number of failures in each subject of the Final Examination :—

I.	Design	57
II.	Principles of Architecture	54
III.	Building Materials	15
IV.	Principles of Hygiene	47
V.	Specifications	24
VI.	Construction, Foundations, &c.	48
VII.	Construction, Iron and Steel, &c.	52

Election of Licentiates.

At the Council Meeting of the 20th July the following candidates were elected Licentiates R.I.B.A. in accordance with the provisions of By-law 12 :—

ABBEY : Frank (Huddersfield).
ADAM : John Sheddan (Sydney, N.S.W.).
ALEXANDER : James Montgomerie (Greenock).
ALLARDYCE : Henry William (Ilford).
ALMOND : Frederick John (Manchester).
ALMOND : William John.
ALTON : William Herbert.
AMBLER : Herbert (Leeds).
ANDERSON : Arthur E. (Montreal).
ANDERSON : Frederick William (Birmingham).
ANDERSON : John (Wellington, N.Z.).
ANDERTON : George (Manchester).
ANGELL : Robert.
ANGELL : Thomas Graveley.
APPLEBY : Alfred (Sheffield).
APPLEBY : Arthur (Sheffield).
ARDLEY : Clive Ewart.
ARMSTRONG, John (Oban, N.B.).
ARTHUR : John (Glasgow).
ARTHUR : John Maurice (Glasgow).
ASHFORD : William Harry.
ASHWORTH : Charles James (Winnipeg).
ATKINS : Norman Henry (Fareham, Hants).
AYRIS : Herbert Evans (Carlisle).
BAKER : Harry Edwin.
BAKER : Richard James (Cardiff).
BALL : Frederick (Nottingham).
BARKER : Walter John Raymond.
BARLOW-SMITH : John.
BARNES : Alfred Henry.
BASSETT-SMITH : Charles Aubrey.
BATCHELOR : Roger Beechworth (Cardiff).
BAXTER : Roderick Hildyar (Rochdale).
BEARD : Richard George (Kendal).
BEATTIE : George Nicholas (Glasgow).
BEATTIE-BROWN : William (Edinburgh).
BENTLEY : Arthur Fred Collins.
BENTLEY : Ernest Edward (Grimsby).
BENTLEY : Robert (Whitehaven).
BEAUMONT : Frederick Fox (Halifax).
BERTODANO : Henry Stratford de.
BIDDULPH-PINCHARD : Charles Henry.
BIRAM : Ernest Frank Stuart (St. Helens, Lancs).
BLACK : Percy John.
BLACKWELL : John Thomas (Kettering).
BLAGROVE : George Henry.
BLAIN : William John (Glasgow).
BLAIR : William Wallace (Winnipeg).
BLOMFIELD : Alfred William.
BLYTH : Henry Charles William (Lowestoft).
BOSWELL : George Arthur (Glasgow).
BOWIE : George Pigrum (Vancouver, B.C.).
BOYD : William Craig (Glasgow).

BRAGG : Henry.
BRAMELD : Henry Creswick Wilson (Sheffield).
BREEDS : Arthur Owen.
BRENAN : George Woulfe (Oban).
BREWER : Horace George Charles.
BRICKNELL : Thomas Mortimer (Glamorgan).
BRIDSON : Thomas Ridgway.
BROADBENT : Fred (Leeds).
BROOK-GREAVES : Francis William (Sheffield).
BROWN : Alfred (Luton).
BROWN : Alfred B. (Manchester).
BROWN : John (Northampton).
BROWN : Philip Ernest (Sheffield).
BROWNE : Flint.
BRUCE : Donald (Glasgow).
BRUNTON : Frederick Septimus.
BRYCE : George Ronald.
BRYDEN : Andrew Francis Stewart (Glasgow).
BRYSON : Robert Edward.
BUCK : William Henry (Montreal, Canada).
BULLOCK : Ernest Havergal.
BUNE : John Godfrey.
BURDEN : Charles Frederick (Ontario).
BURDWOOD : Stanley Harry.
BURGESS : Harold Thomas.
BURGESS : Julian Gulson.
BURTON : John Edward (Norwich).
BUSH : Edwin (Preston).
BUTLER : Ernest Newman (Calgary, Alberta).
BUTTERWORTH : Thomas (Manchester).
CABLE : Charles Vincent (Hartley Wintney, Hants).
CAIRNS : James Davidson (Edinburgh).
CAMERON : Robert Macfarlane (Edinburgh).
CAMPBELL : David Williamson (Lockerbie).
CAMPBELL : Hugh (Glasgow).
CAMPSALL : Wilfred Tom (Sheffield).
CARRE : Bingham.
CARRICK : William Arthur Laurie (Glasgow).
CARRUTHERS : James (Glasgow).
CARSWELL : Ronald (Glasgow).
CASSELS : Thomas McGill (Ayr, N.B.).
CATLING : Frank.
CATOR : Arthur Charles Albemarle (Bulawayo).
CHAMBERS : Frederick (Goole).
CHERRY : Harold Griffith.
CHRISTIE : James (Shanghai).
CHUBB : James Arthur.
CLARK : Joseph John.
CLARK : Harold Forbes (Manchester).
CLARKSON : William.
COBB : Thomas Keightley (Northampton).
COBBAN : James (Aberdeen).
COCK : Alfred Myddleton.
CODRINGTON : Joseph William Keal.
COLLINS : Joe (Oldham).
CONSTABLE : William (Edinburgh).
COOKE : Percy Rogers (Johannesburg).
COOPER : George (Rotherham).
COOPER : George William (Sleaford).
COPLAND : George Donaldson (Glasgow).
CORMACK : James Noble (Potchefstroom, Transvaal).
COTMAN : Grahame (Norwich).
COURTAUL : John Sewell.
COUSINS : Charles H. (Swansea).
COWELL : Herbert Lee (Newquay).
CRAIG : George (Leith).
CRAIGIE : James Hoey (Glasgow).
CRAWFORD : Andrew Rennie (Glasgow).
CREMER : Frank.
CRISP : James Gregory (Cheltenham).
CROFT : Christopher (Northampton).
CROMB : John Burns (Hamilton, N.B.).
CROSSLAND : James.
CUDDY : Albert Edward (Liverpool).
CULPAN : Andrew (Halifax).
CUNLIFFE : Thomas Hethorn (Manchester).
CUNNINGHAM : Samuel Baikie (Pretoria).
CURREY : Harold Wynne.
CUTHBERT : David Matheson (Perth).
DAN : Hugh (Glasgow).
DANNATT : Arthur Richard.
DAVEY : Roger Thomas (Chatham).
DAVIDSON : Alexander (Coatbridge).
DAVIDSON : George (Bridge of Allan).
DAVIDSON : John.
DAVIS : John (Lincoln).
DAWSON : Henry Holmes.
DAWSON-PEARCE : Henley (East London, S.A.).
DEAN : Benjamin Sagar (Manchester).
DENTON : Herbert (Sandal, Wakefield).
DEWAR : Alexander Cumming (Fife).
DE WILDE : George Sylvan.
DIBDIN : Ernest Charles Rowe.
DODD : Henry Huntingdon (Dover).
DODGSHUN : Leslie Sydney (Leeds).
DODSON : Sam (Peterborough).
DONALDSON-SELBY : Thomas Tyssen Grey.
DOWNER : Ernest Gordon Ross (Newport, Mon.).
DRAPER : William Basil Yeatman (Singapore).
DREW : Edward (Swindon).
DRIFFIELD : William (Knaresborough).
DUNCAN : Allan Ferguson (Glasgow).
DUNCAN : William Liddle (Turriff).
DUNCANSON : Edward Ford.
DUNHAM : William John (Norwich).
DUNN : John Glen (Cambuslang).
DURLACHER : Edward Ford.
DURST : Austin.
DYKES : Thomas (Glasgow).
EDLIN : Vernon Annesley.
ELLIS : John (Stonehaven, N.B.).
ELLISON : Francis Beaumont (Wakefield).
ELLISON : Robert Kitching (Huntingdon).
ELTRINGHAM : John (Sunderland).
EMMETT : Henry Alfred.
ENGLAND : Ernest Sugden (Oldham).
ETHERINGTON-SMITH : Harry Launcelot.
EVANS : George De Lacy (Melbourne).
EVANS : George Vincent (Pontypridd).
EVANS : John Morlais (Neath, Glamorganshire).
EVANS : Norman (Southend-on-Sea).
FAIRBAIRN : Walter (Edinburgh).
FARQUHAR : George.
FARRER : Percival Inglis (Salisbury).
FATKIN : James Newton (Newcastle-on-Tyne).
FENN : Frederick (Manchester).
FERGUSON : William (Glasgow).
FINN : Harry Reginald (St. Albans).
FLEEMING : William Henry (Wolverhampton).
FLEMING : George Granger (Pretoria).
FLOYD : Francis Hayward (Newbury).
FORRESTER : Alfred (Middlesbrough).
FOSTER : Francis Roland (Montreal).
FOX : Thomas John.
FOXALL : Harry (Carlisle).
FRANCE : James Harold (Manchester).
FROST : Herbert (Gosport).
GAGNON : Willford Arthur (Montreal, Canada).
GALE : Ernest Sewell.
GALE : William Willis (Carshalton).
GALL : John Hinton (Inverness).
GALLETLY : John Thomas (Edinburgh).
GALLOWAY : David Wishart (Brechin).
GANNON : William (Petersfield).
GARDEN : Hubert McBain Gardiner (Sydney, N.S.W.).

GARDNER : Alexander (Glasgow).
GARDNER : Alexander McInnes (Glasgow).
GARDNER : Gilbert Thomas Francis (Oxford).
GARROOD : Thomas Merrison.
GEORGE : Clement (Aberdeen).
GEORGE : Wilfred Harold (Cheltenham).
GHOSE : Rajendra Chandra (Chinsurah, India).
GIBSON : William Garnett (Crawley, Sussex).
GIBSON : William Stephen (Coatbridge).
GILL : William Ernest (Bury).
GILLESPIE : James (Edinburgh).
GLENDINNING : James John (Halifax).
GLENNIE : Frederick Forbes.
GOODMAN : James Hugh (Reading).
GOODRHAM : Henry Robert.
GOODSIR : John Proudfoot (Falkirk).
GOODWIN : Alexander Laurie (Edinburgh).
GOSLING : Frederic Arthur.
GOSLING : John Henry Charles (Portsmouth).
GRAHAM : Patrick H. (Gisborne, N.Z.).
GRANT : Andrew (Toronto).
GRAYSON-BROWN : W. (Ontario).
GREEN : David Frederick (Bolton).
GREEN : Herbert Percy (Market Harborough).
GREIG : Alfred (Edinburgh).
GRIFFITH : Henry Sandham (Victoria, B.C.).
GRIFFITHS : Thomas Henry (Stoke-on-Trent).
GRIFFITHS : Walter Austin (Pontllanfraith, Mon.).
GRIMSHAW : Kershaw (Stockport).
GROVE : Arthur.
GROVE : Richard Thomas.
GUTTERIDGE : Alfred Fowler (Southampton).
HAGGER : George John (Worthing).
HAIL : Douglas Pairman (Edinburgh).
HALL : Amos (Leicester).
HALL : Charles Russell (Congleton).
HARDING : Herbert W. (Bristol).
HARDING : H. R. (Leicester).
HARRISON : C. René.
HARRISON : Edmund James.
HARRISON : Frederick (Leicester).
HARRISON : John Edwin (Bloemfontein).
HARRISON : Louis (Deniliquin, N.S.W.).
HARRISON : Reginald Arthur Victor.
HARTLEY : George Alfred (Oldham).
HAY : Edward A. B. (Glasgow).
HAYLOR : Benjamin.
HECTOR : John Black.
HERRALD : D. Easton (Alberta, Canada).
HEWLITT : Arthur George (Hong Kong).
HICKS : Herbert (Broadstairs).
HIDER : Ernest James Wedlock.
HIGGINBOTTOM : George Harry (Manchester).
HIGGINS : Francis Coleman.
HIGGINS : Henry Edward (Glasgow).
HILL : Thos. Jackson (Manchester).
HINDMARCH : John G. (Stockport).
HODGSON : Victor Tylston.
HOFFMAN : George Spencer.
HOGG : William Johnston (Newcastle).
HOLGREAVES : William Pearson (Ebberston, Yorks).
HOLLAND : Alwyn Henry (Sheffield).
HOLMAN : George Edward.
HOLT : George Dominic (Manchester).
HOLWAY : Percy Yell (Sheerness).
HOOPER : Ernest Fray (Exeter).
HOPE : Arthur John (Bolton).
HORSFIELD : Thomas Baptist (Manchester).
HOULKER : William, jun. (Nelson, N.Z.).
HOULT : John Winnall.
HOWARTH : Fred (Towyn).
HOWIE : William Holmes (Glasgow).
HOYLAND : Arthur James (Manchester).
HUCKER : David.
HUDDART : Arthur (Whitehaven).
HUGHES : Arthur Ernest (Wolverhampton).
HUGHES : William Alfred.
HULME : Edwin (Liverpool).
HUNT : Herbert Salmon.
HUNTER : John Marshall (Montreal).
HUNTINGDON : Frederick James (Montreal).
HUNTLEY : Frederick Arthur (Bristol).
HUTTON : John (Kendal).
ILES : Ernest Stanley.
INGLIS : Alexander (Hawick).
INGRAM : Herbert Clavell.
IRVIN : Benjamin Robert (North Shields).
JACKSON : Sydney Alexander (Lancaster).
JAMES : Alan Gossett.
JARVIE : John Stirling (Perth).
JENNISON : John (Manchester).
JERDAN : John (Edinburgh).
JOHNSTON : James V. (Londonderry).
JOHNSTON : Joseph Marr (Leith, N.B.).
JONES : Francis, jun. (Manchester).
JONES : Robert Cadwaladr (Blaenau Festiniog).
JONES : William Alban (Leeds).
JORDAN : Sidney Thomas.
JURITZ : John William (Cape Town).
KAY : Claud John (Horsham).
KEMPTHORNE : Charles Henry (Cardiff).
KENNEDY : William James (Edinburgh).
KENT : Arthur.
KERR : James (Lanark).
KERR : Thomas.
KIDD : William Alexander (Glasgow).
KING : George William (Toronto).
KING : John (Wishaw).
KIRK : Albert Holmes (Dewsbury).
KIRK : Walter (Withyham).
KLINGENDER : Frederick Louis (Melbourne).
KNAPMAN : Harry Lethbridge (Northampton).
KOCH : Wm. Rudolph Waldemar (Hobart, Tasmania).
KYLE : Arnold Woodrow (Durham).
LACEY : Arthur Ernest.
LAIRD : James Austin (Glasgow).
LAMBERT : Wilberforce Page (Alberta, Canada).
LANCASHIRE : John (Sheffield).
LANGHAM : Claude Stephens (Leicester).
LANGLEY : William (Leicester).
LANSDOWN : Frank (Edmonton, Alta.).
LAVENSTEIN : Ezra (Johannesburg).
LAWRENCE : Charles Alexander (Wellington, N.Z.).
LAWRENCE : Charles Ernest (Newport, Mon.).
LAWSON : Sydney H. (Newcastle).
LAWTON : Wilfred (Manchester).
LEAH : William (Gloucester).
LEMAN : Montagu William (Great Yarmouth).
LEMAN : Thomas Melville (Glasgow).
LENNOX : Gavin (Glasgow).
LESTER : John Milne.
LETTS : Thomas Hollins (Montreal).
LEWIS : John Martin (Madras, India).
LEWIS : Lewis (Cardigan).
LEWTON : William George (Shinfield, near Reading).
LICKELY : Alexander (Dundee).
LINDSAY : James Aynsworth (Edinburgh).
LINES : Roland Walter (Alberta, Canada).
LISTER : Edward William (Plymouth).
LISTER : Thomas Gerard (Newport, Mon.).
LITTLE : Tom Curry (Vancouver, B.C.).
LIVESAY : Frederick Howard (Bishop Auckland).
LLOYD : Edwin Ambrose (Blackburn).
LOCKHART : John Whitelaw (Ayr).
LODGE : Percy Dean (Manchester).
LOGAN : Thomas Munro (Aberfeldy, N.B.).

LORIMER : Alexander (Edinburgh).
LOVEYS : Thomas (Newton Abbot).
LOWBRIDGE : George Cecil (Stafford).
LOWE : James (Dundee).
LOWRY : Frederick (Leigh-on-Sea).
LYNES : George G. (Dublin).
McARTHY : David (Edinburgh).
MACKAY : William (Melbourne).
McKINLAY : Andrew (Rothesay).
MACKINTOSH : Chas. John MacLean (Fort William).
McKISSACK : James (Glasgow).
M'LACHLAN : James (Edinburgh).
McLAREN : Peter Robert (Edinburgh).
MacLEOD : John Duncan (Edinburgh).
MacMATH : Daniel W. (Glasgow).
MacNAUGHTAN : Alan George (Glasgow).
MACNIVEN : George Donaldson (Edinburgh).
McRAE : Alexander (Edinburgh).
MacRAE : Ebenezer James (Edinburgh).
McWILLIAM : John Alexander (Edinburgh).
MAIDMAN : Edward Charles Henry (Edinburgh).
MALCOLM : Alexander Nisbet (Grangemouth).
MANNING : George William.
MANNING : William Charles (Newmarket).
MARRIMAN : George Frederick Maskelyne.
MARSTON : Charles Frederick (Sutton Coldfield).
MARSTON : Herbert William Henry (Sutton Coldfield).
MARWICK : Thomas Craigie (Edinburgh)
MATTS : Malcolm Waverley.
MAY : Thomas Frost.
MAYBURY : John Henry (Manchester).
MAYOR : R. Yates (Northampton).
MEGGITT : Ernest (Sheffield).
MEIKLE : Joseph Abraham.
MILES : George Scott.
MILLAR : Thomas Andrew (Glasgow).
MILLER : Charles George.
MILLES-DIAMOND : Harold Victor (Chandlers Ford).
MILLS : Evan Holford (Llanidloes).
MITCHELL : Alexander McGregor (Coatbridge).
MITCHELL : Henry (Glasgow).
MITCHELL : Robert Matthew (Crieff, N.B.).
MOFFAT : Bowland Brockman (Biggleswade, Beds).
MOODEY : Ernest Edward (Broadstairs).
MORGAN : Edgar Percy (Reading).
MORRIS : Wilmot Banks (Bolton).
MORRISON : James Inch (Edinburgh).
MORRISON : Latto Alexander (Biggar, N.B.).
MORTON : Robert Reginald (Montreal).
MOYE : Henry Hayward.
MURDOCH : Walter David (Wellington, N.Z.).
MURPHY : Bailey Scott (Edinburgh).
MURRAY : Thomas Henry (Consett, Co. Durham).
MUSTO : Joseph Robert.
MYERS : Legender William.
NEIL : Hamilton (Clydebank).
NEWMAN : Augustus William.
NICHOLLS : John H. (Sunderland).
NISBET : Edgar Charley.
NISBET : John Bryan (Edinburgh).
NISBETT : Hamilton More (Edinburgh).
NORMAN : Geoffrey.
NORRIS : James Herbert (Godalming).
NOWILL : Henry (Sheffield).
NUNWEEK : Arthur (Sheffield).
OCHILTREE : Jack Learmonth (Perth, W. Australia).
OGDEN : Herbert (Sheffield).
OGILVY : Gilbert F. M.
OLIVER : Charles Bryan (Bath).
ORPHOOT : Barnett Napier Henderson (Edinburgh).
ORWIN : James Barclay (Southend-on-Sea).
OSBORN : George (Sheffield).
OSBORNE : William Robert (Chippenham).
OVENDEN : Hugh (Preston).
PAGE : Charles Ernest (Newport, Mon.).
PAGE : Joseph (Leeds).
PAIN : Frederick George.
PALMER : Bertram Henry (Exeter).
PALMER : Ernest Hugh (Exeter).
PALMER : Frederick Charles Richard.
PARKER : Arthur Thomas (Lewes).
PARKER : Frank (Pretoria).
PARKER : Parry (Letchworth, Herts).
PARKER : Stanley.
PATERSON : Gavin (Hamilton).
PATERSON : George Andrew (Glasgow).
PATTERSON : William.
PAUL : Arthur Gorman Balfour (Edinburgh).
PEACE : Thomas Smith, jun. (Orkney, N.B.).
PEARCE : Edward Andreas.
PEACOCK : John Holden (Arbroath).
PEDEN : Frank (Montreal, Canada).
PERRAULT : Joseph (Montreal, Canada).
PERRY : Marten Bingham.
PETERS : Samuel Frank (Winnipeg, Manitoba).
PETTER : John (Yeovil).
PHILLIPS : George Ridley.
PHILPOT : Stanley (Tunbridge Wells).
PINCHBECK : John Banner.
PINKERTON : William Edward.
PITTRER : Francis Léon.
POPE : Morley (Montreal).
PORTER : Harry Sugden (Manchester).
POTTER : Harold Marten (Worthing).
POTTER : Joseph Walter (Prince Rupert, B.C.).
POTTS : Walter (Sheffield).
POWELL : Daniel (Liverpool).
PREECE : John (Pontypridd).
PRESTWICK : James Caldwell (Leigh).
PRIEST : Arthur (Chester).
PROCTER : Edward.
PRYER : Ernest Arthur (Gloucester).
RATCLIFFE : George (Norfolk).
RAVENSCROFT : Burton Stephen.
RAWCLIFFE : George Herbert (Sheffield).
RAYNER : Frederick John (Newhaven).
REED : Percy Walter.
REID : Peter (Kirkcaldy).
REID : William (Glasgow).
REW : Noël Ackroyd (Great Berkhamstead).
RHODES : Joseph (Leeds).
RICHARDS : John Vaughan (Crickhowell).
RICHARDS : Llewelyn Lincoln (Wellington, N.Z.).
RICHARDS : Walter Armstrong.
RICHARDSON : James.
RIDLER : Walter (Tewkesbury).
RILEY : Charles Henry (Aylesbury).
RILEY : George (Oswaldthwistle, nr. Accrington).
RIMMER : Harry (Ormskirk, Lancs).
ROBB : George (Wellington, N.Z.).
ROBERTS : Evan (Oldham).
ROBERTSON : Alexander (Inverkeithing, Fifeshire)
ROBERTSON : A. K. (Edinburgh).
ROBERTSON : James David (Johannesburg, S.A.)
RODDIS : Alfred John.
RODERICK : Thomas (Aberdare).
ROGERS : William Herbert.
ROPER : John Edwin (Leicester).
ROSS : Robert Thorn (Coatbridge).
ROWBOTTOM : George (Stalybridge).
ROWLEY : Charles Aubrey (Bristol).
RUFFLE : Hugh William Ellis.
RUSSELL : John (Oldham).
SAGE : Edgar.

SALMOND : David (Glasgow).
SALMOND : William (Dundee).
SANDERSON : Bertie (Buckingham).
SAVAGE : John.
SCLANDERS : William Wardlaw (China).
SCOTLAND : John (Airdrie).
SCOTT : Alexander Hamilton (Paisley).
SCOTT : Anthony Colman.
SCOTT : Charles Marriott Oldrid.
SCOTT : Thomas Henry Birchall.
SEXTON : George Alexander.
SHARP : Abraham (Bradford).
SHARP : Leonard (Hull).
SHARP : Robert (Ceylon).
SHEEN : William.
SHEPPARD : Raymond (Wellington, N.Z.).
SHENNAN : David (Montreal, Canada).
SIMISTER : Ernest (Oldham).
SIMPSON : George (Glasgow).
SIMPSON : Hugh Dykes (Hamilton).
SMEDLEY : George Palmer.
SMITH : Archibald Fowler (Southampton).
SMITH : David (Dundee).
SMITH : Edward Ashby.
SMITH : Edwin Evan (Brisbane, Queensland).
SMITH : William Mackenzie (Johannesburg).
SNELL : John Saxon.
SNOWDEN : Thomas (Hull).
SOUZA : Antonio Vincente de (Rangoon, Burma).
SPIGANOVICZ : Victor James de (Edinburgh).
SPINK : Herbert (Windsor).
STALLYBRASS : Basil Thorold.
STAMFORD : Bernard B. (Beverley).
STEPHENS : Samuel Cooper (Birmingham).
STEVENS : Alfred (Exeter).
STEVENSON : Ernest (Pretoria, S.A.).
STEWART : John (Glasgow).
STOKE : Ernest Edward (Bournemouth).
STONES : Edgar.
STREETER : Edwin Frederick William.
STRONG : Francis David (Pretoria).
STROUD : Albert William.
STURROCK : David Woodburn (Glasgow).
SUTHERLAND : Eric Alexander (Glasgow).
SWALES : Thomas (Rangoon, Burma).
SWAN : James Henry.
SWINDELLS : Ernest James Jennings (Leicester).
SYMES : William Charles.
TAIT : David Alexander (Grangemouth).
TAYLOR : John (Longton, Staffs).
TAYLOR : John Edward (Manchester).
TAYLOR : Thomas (Oldham).
TAYLOR : Thomas E. (Annfield Plain, Co. Durham).
TEATHER : John Charles Amory (Sheffield).
THACKRAY : John William (Leeds).
THOMAS : Henry William.
THOMPSON : Herbert (Blackpool).
THOMSON : Henry (Dundee).
THOMSON : James (Airdrie).
THOMSON : James (Dundee).
THOMSON : William Erskine (Dundee).
TIDD : Charles William (St. Helens).
TIFFIN : Hugh Stammers.
TIMBS : Richard Percy (Derby).
TINNISWOOD : Alfred (Carshalton, Surrey).
TINNISWOOD : George (Manchester).
TONAR : Lewis Francis John Scott (Exeter).
TONKIN : Wilfrid Wiseman (Johannesburg, S.A.).
TOUGH : Joseph John (Greenock).
TUCKER : George Graham (Ramsgate).
TURNER : Ernest William (Sheffield).
TURNER : George Arthur.
TURNER : Robert Charles (Shanghai, China).
TWELLS : Albert Edward (Hill Top, Notts).
TWIZELL : George Sterling (Vancouver).
UNSWORTH : William (Liverpool).
VENNING : Herbert Reed (Liskeard).
VERLYCK : Georges Louis Marie (Essex).
VERMONT : Joseph.
WADE : John William (Manchester).
WALKER : Fred (Cradley Heath, nr. Birmingham).
WALKER : Ronald (Stirling).
WALKER : James Carruthers (Glasgow).
WALKLEY : Albion Henry (Melbourne).
WALSH : Joseph Frederick (Halifax).
WALTON : George.
WALTON : Henry Denison (Glasgow).
WARD : Edmund John.
WARD : Jesse William (Wimbledon).
WARD : William Henry, Junior (Birmingham).
WARDLE : Joseph Whitfield (South Shields).
WATKIN : Ernest T. (Burslem).
WATSON : George Mackie (Edinburgh).
WATSON-JERDAN : J.
WATSON : John (Glasgow).
WATSON : Walter Crum (Edinburgh).
WATSON : William Harold (Wakefield).
WAUMSLEY : Thomas Herbert (Nottingham).
WEAVER : Thomas (Birmingham).
WEBSTER : John Douglas (Sheffield).
WEDDELL : James Wilkie (Glasgow).
WEEKES : Joseph (Newport, Fife).
WELLS : William (Grimsby).
WHEELER : Arthur Wakefield (Edmonton).
WHITBURN : Henry Alfred.
WHITELAW : Charles Edward (Glasgow).
WHITTAKER : Frank Ernest (Manchester).
WILKINSON : Philip Arthur Cawte.
WILLIAMS : Albert Charles.
WILLIAMS : Richard John (Kettering).
WILLIAMS : William Harold.
WILLIAMSON : Thomas (Dublin).
WILSON : Allen (Johannesburg, S.A.).
WILSON : Andrew Oswald (Perth, Westn. Australia).
WILSON : Henry (Polmont, N.B.).
WILSON : James Jackson (Glasgow).
WILSON : John (Edinburgh).
WILSON : Reginald T. (Bradford).
WINGATE : Alexander (Glasgow).
WINN : Joseph Harrison (Derby).
WOODESON : William (Manchester).
WORSSELL : James Lloyd.
WRIGHT : Alexander (Glasgow).
WRIGHT : Alfred Robert Linns (Perth, W. Australia).
WRIGHT : George Alexander (San Francisco, U.S.A.).
WRIGHT : James, jun. (Glasgow).
WYLES : John Walter.
WYLLIE : David Valentine (Glasgow).
YERBURY : John Edwin.
YORKE : Francis Walter Bagnall (Birmingham).
YOUNG : Alexander (Newton Stewart, N.B.).

ALLIED SOCIETIES.

Royal Victorian Institute of Architects. — The Report of the Council for the year 1910–11 states that the membership now numbers 52 Fellows, 4 Hon. Fellows, 50 Associates, and 26 Students. During the year, the Council have effected an alliance with the parent Institute in London. Nearly twenty years ago, negotiations for alliance were entered upon, but, on account of a matter which purely concerned Australian practitioners, in which neither body was prepared to make any concession, the negotiations lapsed. Within

the last year or so, by means of personal interviews between the officers of both bodies, the way was made clear, and, a formal application for alliance having been made, the Council of the R.I.B.A. admitted the Victorian Institute as an Allied Society, stating "that the successful conclusion of this alliance had given the greatest satisfaction to the Council, who welcome the establishment of such close and friendly relations with one of the oldest and most distinguished of the architectural societies of the Empire." The Council of the R.V.I.A. expresses the conviction that the alliance will be beneficial to the interests both of architects and architecture in this and the other States throughout the Commonwealth. The R.I.B.A., having sent out to the Victorian Institute a number of forms of application for admission to the new class of Licentiates, particulars of the degree were published in the "Proceedings," and the Council report that a goodly number of applications have been made. On behalf of the various State Institutes of Architects, Engineers, and Surveyors, the Council have interviewed the Minister for Home Affairs concerning the proposed competition for the laying out of the Federal Capital. A year ago, the Department was asked to furnish the Institute with a copy of the conditions of this competition, but the request was not complied with. Immediate and successful steps were taken to secure joint action on the part of the various State Institutes of Architects, Engineers, and Surveyors. The Institutes of the three sister professions in N.S.W. have agreed to work together, and in Victoria it is anticipated that similar united action will be effected. Until last week, when a deputation from the Council waited upon the Minister for Home Affairs, little or nothing was known of the conditions of competition beyond the amounts of the three prizes offered. The contour map of the site was inspected by the representatives of the Institute, and sufficient information was given by the Minister to warrant the calling together of a conference of all the Institutes of Architects in the Commonwealth, each Institute conferring with the Institutes of Engineers and Surveyors, if any, in its respective State. On the day following the deputation a *précis* of the proceedings was despatched to all the States, with an urgent request that the views of the conference should be laid before the Minister within the stipulated period of one month. The Council hope that vigorous and united action by the profession may succeed in making this competition, which is to be of a world-wide character, one which shall be conducted under the fairest possible conditions, and which will, in response, call forth a goodly number of high-class designs. The report goes on to state that the Council nominated the President for membership of the Town Planning Conference initiated by the R.I.B.A. during last year. A careful study of the question by Australian architects will, the Council hope, have the effect of preventing the mistakes of the old world from being repeated in these new lands, hence saving the community from incurring great expense in this direction. The Council trusts that the Australian civic centres will be laid out in the future with more æsthetic treatment than has been accorded to them in the past. The Building Regulations proposed by the suburban municipalities, and adopted after conference with the Council of the Institute, requiring the authority of a Parliamentary Bill, this Bill was duly introduced and passed its three readings in the Legislative Council, and its first reading in the Assembly. At this stage there were tacked on to it certain clauses which embodied the proposed Melbourne Building Regulations, many portions of which were still being strenuously opposed by the Council, in conjunction with the delegates from the Chamber of Commerce. This extension of the scope of the Bill was therefore opposed by an emergency committee of the Victorian Institute as soon as it became aware of the proposal. As a consequence of the opposition which was thereupon manifested, the Bill was not proceeded with. The subject of prime costing is still a matter of conference between the Master Builders' Association and the Council. At the conference held on 2nd August, the subject was generally dealt with, and it is expected that soon this matter may be disposed of for good. The Council, however, have passed the following resolution dealing with the subject:—"The Council is agreed that works 'prime costed' should be fixed by experienced and approved men." Concerning competitions, the Council have passed a resolution to the effect that they will be pleased to advise on all classes of proposals for competitive designs which the public may submit to it. It is now a condition required by the Institute that the drawings in any competition shall be exhibited in a convenient place after the awards have been made. The Council has further resolved that, in the selection of designs, the proprietor shall (not may) call in experts to advise.

The Cape Institute of Architects.—A general meeting of this Institute was held on 13th June in the board-room of the South African Association. The President reported as to the present position in regard to the Architects' Registration Act. He said that the various Institutes had agreed on nearly all matters, the only question not yet settled being whether the Act should be administered for the first six months from Cape Town or Johannesburg. The President expressed the hope that all members would obtain copies of the proposed Municipal Act, and study it, before next meeting, when it was to be discussed, as it required modifying in many important features. The President gave notice that at the next general meeting he would raise the question as to the desirability of instituting a class for students for making sketches and measured drawings of old Cape buildings, and of offering a prize or medal for such work. A letter from the Publicity Association was read, asking the Institute to appoint delegates to serve on the Advertising and Attractions Committee, where their advice on matters relative to the improvement of the Peninsula would be valuable. Messrs. Arthur H. Reid, F. R. Kendall, and J. Morris were appointed. A letter from the Royal Institute of British Architects was read, stating that Licentiates would be elected until 30th June 1912, and that applications must be received in London before 31st May 1912. Intending applicants from South Africa would save time by sending their application through the local secretary of the R.I.B.A., Mr. Arthur H. Reid.

Architects' Benevolent Society.—*Errata*: In the recent issue of the Society's Red Book the name of Mr. Henry Lovegrove should have been associated with that of Mr. C. H. Brodie as joint auditor, and the name of Mr. J. Henry Ball included in the list of annual subscribers for the amount of £2 2*s*.

SUGGESTIONS TO PROMOTERS OF TOWN PLANNING SCHEMES, by the Town Planning Committee R.I.B.A. With Preface by the Right Hon. John Burns, M.P., President of the Local Government Board.

PREFACE.

I FEEL sure that the valuable Suggestions formulated by the Royal Institute of British Architects will be read with great interest by the members and officers of Local Authorities, and indeed by everyone concerned in the science of Town Planning. They indicate the considerations to which the architect would give most weight in framing a Town Planning Scheme, and the Institute is to be commended for having placed at the disposal of the public the great experience and skill of the members of their Town Planning Committee.

The Local Authorities will of course bear in mind that many of the suggestions apply to the planning of a new town rather than the development of a suburb, and that they represent the high-water mark of the tide of progress.

I trust that following on the recent Conference at West Bromwich the engineers and surveyors may see their way to supplement the Code which the Institute has formulated, and that the efforts of all will afford most valuable aid to the promoters of Town Planning Schemes.

The co-operation of the architect, the surveyor and the engineer with the Local Authority on the lines suggested by the Royal Institute of British Architects will help towards the formulation of plans that will provide for the well-ordered extension of towns and suburbs as their populations grow. The past neglect by communities of the proper relation of industrial growth to residential convenience and public amenity calls for a better organisation and for greater harmony between the means of industrial life, the pleasure of domestic surroundings, and the sense of civic beauty as expressed by the adornment of roads, streets, parks, and buildings.

Till commercial interests are better adapted to a pleasant and neighbourly relationship towards the residential, domestic, and artistic environment of a district our citizens will not enjoy that pride in their towns which Town Planning is designed to secure.

2nd August 1911. JOHN BURNS.

INTRODUCTORY.

THE following Suggestions have been drawn up by the Royal Institute of British Architects, as a result of the Town Planning Conference and Exhibition held in October 1910.

At that Conference factors of an architectural character naturally received special attention, but so many others were shown to have a bearing on town development that the Institute has endeavoured to include in these suggestions such preliminary considerations as may demand attention before any definite plan is prepared. It will be obvious that many of these notes apply only to large schemes involving, in addition to the development of new areas, civic improvements in the town itself; and at first sight they may seem to go beyond the scope of the Town Planning Act. It will, however, be found that comparatively small developments may be far-reaching in their ultimate effects upon the plan of a town; and that desirable future improvements in the central area, though not forming part of the scheme, may be rendered impossible if not provided for in the first instance.

Part I. of these notes includes suggestions for actual town planning work, arranged as far as possible in the order in which the questions would naturally arise.

Part II., which is in preparation, will contain a short summary of the powers and opportunities arising under Part II. of the Housing and Town Planning Act.

PART I.

I. CIVIC SURVEY.

As a town planning scheme must both direct and limit the development of the area to which it applies, success can only be expected if it is based on a thorough survey and understanding of all existing conditions. Such survey, in addition to recording the physical state of the site, should cover the social and economic condition of the population and the historic and archæologic interest associated with the locality and its buildings. Some of the information may already be in the possession of various local Societies, who would probably be glad to undertake the necessary collection and tabulation.

The present distribution of the population, its standard of health and well-being, its occupations, and the available opportunities for education and culture should be studied, while any tendencies towards change or development should be noted. The topography of the region, with any natural conditions of the site, the natures of the soils and sub-soils, the average rainfall, and particulars of the prevailing winds and other climatic details affecting water supply, vegetation, and animal life, are all relevant; and freedom of access to natural advantages, such as river or sea-coast, for fisheries, commerce, or recreation, specially affects the condition of the people.

The history of the development of the town will show the influences which have led to its existing condition, and will draw attention to buildings or other material survivals, or traditional associations, worthy of preservation with a view to maintaining its individuality; particulars of local government areas, municipal and parochial, and details as to ownership and usual tenure of land are necessary; also there should be included a survey of the existing open spaces, parks, playgrounds, &c., and the use made of them. Some particulars may well be added of existing activities towards betterment, both municipal and private, the working of which may have a bearing on that civic improvement which it is the purpose of town planning to promote. And, finally, estimates of probable future increase of population and its requirements for industrial, educational, recreational, and other purposes should be made, together with a series of suggestions of all desirable future improvements, many of which may be facilitated by a town planning scheme, even where they cannot be embodied in it.

II. TECHNICAL SURVEY.

For use of those actually engaged in planning the town, much of this information may be summarised in diagrams and maps. For example, Ordnance maps may be coloured to indicate the distribution of industrial, residential and commercial areas; the relative density of population in different parts, and any insanitary or very poor districts may be shown, also the relative values of land, the distribution of parks and other open spaces, and the areas suitable for their extension, and the periodic growth of the town. It is necessary for every town planning scheme under the Act that there should be an accurate map prepared showing the ownership of the land, with correct boundaries. Plans showing the levels are essential; the contour lines should, if possible, indicate every 5 feet change in level. A contour model would be found very helpful in many cases. The 25-inch Ordnance maps are the most convenient in scale as a basis for this work; they should be brought up to date, showing new developments that have taken place; and all tram lines, drainage, water, gas, electric light, and other existing services should be marked; while any limits of capacity and levels affecting them should be noted.

A survey should be made of all features worth preserving, including well-grown trees; while particulars of specially beautiful distant prospects or other scenic considerations are very valuable. A record of the best views of the finest existing buildings, with photographs taken from standpoints marked upon the plan, will also prove useful for the town planner when grouping his buildings. Some record, again illustrated by photographs, of all that goes to make up the individuality of the town from an architect's point of view is desirable, and might include local uses of building materials, local customs as to types of dwellings, and the size and shape of building plots. The preservation of individuality in a town is desirable on æsthetic grounds. Places where picturesque beauty exists, or where symmetrical planning has been carried out in the past, should be noted, so that what is good of either type may be preserved, and extensions may be so designed as to enhance the existing effect.

III. NEW TRAFFIC FACILITIES.

The survey described above, or such portion of it as may be relevant to the particular area under consideration, having been prepared, the working out of the lines of future development can be commenced, and perhaps the first step should be to determine how far new facilities for locomotion are required. The railway companies and others interested should be consulted so that railway extensions, new railways, or new sidings and shunting grounds falling within the scheme may be located at an early stage, and the same applies to new waterways or the development of existing docks and harbours; their position will often be fixed within very narrow limits by the nature of the ground and other existing circumstances, in which case they will become important determining factors, greatly influencing the design. Within the possible limits, however, they should be placed and treated so that they may add to, or at worst detract as little as possible from, the amenities of the town. The noise of railways in close proximity to buildings will be much reduced when they can be made to run in a cutting, the banks of which are planted with trees. The importance of railways as the modern means of approach and of their stations as the modern gateways of the town, would suggest a more dignified treatment than they usually receive.

In the case of docks and harbours, it is essential to provide for plenty of siding accommodation and warehouse ground adjacent to them; while dwellings for the large number of workpeople employed, often at irregular hours, should be provided within the range of convenient access. Having made these provisions, the great decorative effect of large sheets of water, and the attractiveness of ports, where the docks and harbours are intimately associated with the town, as at Havre or Copenhagen, should be borne in mind.

IV. MAIN AND SUBSIDIARY CENTRES.

The formation of appropriate centres for governmental, administrative, commercial, or educational purposes not only makes for economic efficiency, but helps architectural design by providing points of emphasis around which the plan may be arranged; and the position of these should be fixed at an early stage. The administrative buildings would naturally form the chief centre, while markets and exchanges would be grouped in commercial centres. Power-stations and similar buildings may lead to the formation of industrial centres. Where University buildings exist they should form the main educational centre; and in all towns the grouping of educational opportunities, such as are afforded by Museums, Libraries, Picture Galleries, Gymnasia, Art, Science, or Technical Colleges, would facilitate and extend their use, and would also serve to emphasise the important place which education takes in the life of any community.

Main centres will only be required in large schemes, but some opportunities for creating minor centre points will occur in almost any scheme, for, however small, it will generally include a few buildings connected with education, recreation, social or religious life, the relative prominence of which may be used to secure the desirable emphasis in the centre.

Greater use in this country might well be made of the *place*, a feature akin to the more ancient Greek agora or Roman forum, and common in Continental towns. For important centres, the grouping of several *places* around the main buildings affords an opportunity of securing adequate scale for the dominating feature without making any of the individual *places* of too great size to be effective. In designing *places*, which may be regarded in some respects as open-air rooms, the value of securing a sense of enclosure should be borne in mind; particularly when they are intended to be places of resort for the purpose of markets, public meetings, or recreation. In older cities there is constantly recurring difficulty in finding suitable sites for public monuments; such sites should be provided when designing new centres.

The character and architectural treatment of centres should be appropriate to their purpose and expressive of their relative importance. Governmental or administrative centres would naturally be treated in a monumental manner indicative of the important functions there to be housed, and the design should lead up to something of a climax; while, on the other hand, a more homely treatment might be appropriate for the minor centre of a residential area; though in all cases some degree of architectural emphasis is essential. Where either the nature of the ground or the directions of existing streets make a regular lay-out undesirable, it becomes all the more necessary to consider carefully the placing of each building, if the different views of the centre are to compose successfully.

The importance of placing public buildings where they can be well seen and will confer the greatest amount of dignity upon the district in which they stand cannot be exaggerated. Whether such buildings are detached, or grouped along some fine street, or around a *place* to form a centre, ample space should be provided as well for their proper setting as to accommodate without inconvenience the large numbers of people likely to assemble there. The dedication of a definite proportion of the site of a public building for these purposes is recognised as essential in many foreign countries. In some towns, existing parks will afford an opportunity for arranging public buildings in a setting of foliage and greensward which should by no means be neglected. But whatever its character, a fine civic centre will only result from the harmonious combination of all the parts; while discordant elements, even in minor details, may destroy much of the effect. The architect should, therefore, be given the opportunity to determine the treatment, to assign positions for any monuments, to select or design the accessories, and arrange the lighting, so that all may contribute to enhance the effect aimed at.

V. TRAFFIC CENTRES.

Points towards which the streams of traffic will tend to converge must necessarily occur at or near the different centres above referred to. In many cases, where it is advisable to secure some sense of enclosure or seclusion, it will be better that this focus of traffic should be just outside the centre itself, convenience requiring ready access from all directions to such a centre, but not that the streams of traffic should actually cross it. In addition to such centres as have been referred to, lines of traffic would naturally converge towards railway stations, piers, harbours, markets, and bridges; to avoid congestion ample space must be provided at such points. Some open space should indeed be provided wherever several converging roads meet. If such space is not available, it may be better to bring branching roads singly into the main road, and not allow several to converge at a point. Railway stations should be so arranged that pedestrians can approach or leave them without having to cross lines of concentrated vehicular traffic.

In planning traffic centres, while the grouping of buildings suitable for other centres would obviously be out of place, it is nevertheless of great importance to maintain a regular relation between the different roads converging on the centre and the façades of the buildings between these roads if a haphazard result is to be avoided. Some roads may run through the *place* in a direct line, while others may so enter it that the buildings opposite form an orderly terminal to the street view. Where many tram lines converge, a large open space, as free as possible from other traffic, for marshalling the cars for the different routes is found very valuable; and such requirements as cab ranks and shelters should find a place in the plan.

VI. SYSTEM OF MAIN ROADS.

Good lines of communication will naturally be required between the centres referred to above; and, in addition, the street system should provide for a sufficient number of radial lines leading out of the town and connecting with existing main roads, also for ring roads around the town, linking them together. The large volume of traffic between residential areas and the districts of commercial and industrial employment should be especially provided for by wide roads, which, with the radial roads, are likely to be much used for motor traffic.

The main and subsidiary centres, and the chief directions of communication having been determined, a rough, diagrammatic plan will result, upon which must be based the design for the framework of main roads which will form the skeleton of the scheme. On an undulating site this framework will necessarily be influenced by the contours of the ground, in order that easy gradients may be maintained, and will generally also be affected by existing highways, railways, waterways, and other obstructing or determining features, and the points where such can be bridged. This main scheme should, however, be as simple, definite, and easily read as possible, whether the plan takes a regular or irregular shape, which must be governed by the local circumstances.

VII. SECONDARY ROADS.

This framework will have divided the land into a number of areas surrounded by main roads. Each of these will require to be developed by a secondary series to provide communication from the area to the different main roads surrounding it, and to any secondary centres contained within it; and, in addition, for complete development for building purposes, a still further series of minor roads, not required for through traffic but only for access to the buildings, may be planned with less regard to convenience of traffic and special regard to the desirable placing of the particular class of buildings they are intended to serve; as, for example, to secure suitable aspects for the houses fronting upon them, and good views from the adjacent roads.

The relation of the secondary roads to the main framework should be carefully studied, so that the façades along the main roads may not be awkwardly broken, and satisfactory vistas

may be opened out. It is not necessary that the planning of these secondary roads in one of the spaces should be symmetrical with the planning in another. The important consideration is that the relation between the minor roads and the surrounding main roads and centres should be maintained. There is, therefore, ample opportunity to develop each area of land for the particular purpose for which it is required, without detriment to the design. A series of roads which is adapted for cottage property would be unsuitable for business purposes, and one which is suitable for either of these would be quite unfitted for developing land required for factories or large works; it is essential, therefore, that the system of planning should allow for these differences.

While within limits more or less narrow, according to the circumstances, traffic and other considerations will determine the general direction of most of the main roads, as, for example, from A to B or C to D, ample freedom will be afforded for working out a design embodying proper consideration of the architectural effect of the roads and the road junctions; for traffic considerations are not antagonistic to architectural principles, and it will be found that wide, handsome roads, with well-designed crossings, provide easy thoroughfares, and will attract traffic.

VIII. CHARACTER AND TREATMENT OF ROADS.

So long as the conditions of successful treatment in each are maintained, both straight and curved streets may appropriately be used. Straight streets give the most direct access from point to point, afford the most dignified approach to important buildings, and where well-proportioned and not unduly long provide good architectural sites. Curved streets, on the other hand, afford on one side at least a better display of the façades along the street itself, with a more varied street picture, and may be readily adapted to the contours of the ground. On a curved street the buildings of greatest beauty and importance will be best seen if placed on the concave side, while in a straight street the terminal position is the prominent one. A set-back in the building line on a portion of a straight street will, however, create positions of considerable prominence, and will enable the side of a building nearly square with the spectator to displace in the street picture part of the acute perspective of the façade which may sometimes, if prolonged too far without a break, be unsatisfactory. In such a break or set-back a clump of trees may also be planted, the foliage of which in some positions would make a pleasant interlude in the street façade.

The building line will often do more to determine the final effect than the street line, and the proper placing of the buildings and careful adjustment of the frontage lines is therefore an essential part of town planning.

When corners have to be rounded off for the convenience of traffic, or roads made to wind in order to scale some steep bank, it is by no means always needful to break up an otherwise regular grouping of buildings; instead a frontage line differing from the street line may be laid down. On hilly sites the arrangement of the buildings to enhance or to contradict the slope of the ground may be of greater moment than the lines of the buildings on plan; and on such sites the effectiveness of the result will greatly depend on the massing of the buildings.

The length of a street view can be determined by a centrally placed building, by a diversion in the line of the street, or by forking the street. One or other of these means should be taken to prevent indefinitely prolonged vistas, and to secure a suitable closing feature. When placing buildings as terminal features upon which several roads converge from different directions not square with each other their probable type must be considered. A triumphal arch is hardly a happy terminal when looked at obliquely, while a circular domed building will symmetrically close a vista from many directions.

The great architectural opportunities afforded by bridges should be remembered; and while the general position of many roads must be determined by the possibility from an engineering point of view of bridging under or over railways, waterways, or other obstacles,

the lines of crossing should be so arranged as to accord with the best architectural treatment of the bridge and its abutments.

Irrespective of traffic considerations, some proportion between the width of the street and the height of the buildings should be maintained; and where lofty and important buildings are likely to be erected wide streets are necessary.

In an area planned on the lines above suggested, it is possible to grade the widths, character, and construction of the roads according to the purpose to be served; to determine which will be likely to be used for tramways or for motor traffic, where the traffic may be sufficient to justify a road having multiple tracks, and where, on the other hand, only light vehicles attending upon the wants of a few households may be expected. It would then be practicable, while not materially increasing the average expense and area of road surfaces, to make adequate provision for all probable requirements, instead of adopting, as has been usual, one fixed size of street, which is as inadequate for main roads as it is excessive for minor streets.

IX. AREAS RESERVED FOR SPECIAL PURPOSES.

The locating of special classes of buildings has been incidentally mentioned, and this may often require to be roughly determined before the framework of main roads can be laid down. For industrial and manufacturing purposes the areas to be reserved should be well served by railways, and be adjacent to docks and waterways, where such exist, or conveniently placed for the providing of such facilities. Regard should be had to the prevailing wind in the district, and as far as possible the manufacturing areas should be so placed that any smoke, smell, or noise will be carried away from the town. Special requirements for local industries should be considered when determining these areas.

Exact position for business and commercial areas is perhaps of more importance than for any others. Success or failure in many businesses may depend on the right position being chosen. Generally good business quarters will be found on the direct line between the main residential areas and the most important centres; but the conditions which settle that a street shall become a good shopping street or otherwise are somewhat obscure; there will even in many cases be found a marked difference in the value for this purpose of the two sides of the same street. It is considered essential that large numbers of people should pass; apparently some degree of concentration of traffic in relation to the width of the street is desirable, as shopkeepers do not favour excessive width or generally regard tramways as an advantage. While, therefore, it may be possible to determine fairly accurately the area for business purposes, it may be much more difficult to foresee exactly which of several streets will be most highly prized by shopkeepers. The point is, however, one calling for consideration, and particularly when dealing with improvements which may affect the existing business quarters.

The healthiest and most attractive spots on high ground, with sunny slopes, and where there is something attractive in the outlook, are naturally best adapted for residential purposes; but ample provision must always be made as near as possible to the industrial and commercial centres of employment for those who are obliged, or prefer, to live near their work. A general tendency to reduce the number of cottages allowed to be built on an acre may be expected to result from the Town Planning Act. The number will no doubt vary in different districts, and the questions of the cost of the land and of the amount of available open space, in addition to the individual gardens, may fairly be taken into account in this relation. The excessive scattering of individual buildings is not desirable on account of the large area that would be covered by the town, the inconvenient distances created within it, and the excessive cost of carrying roads, water and other services throughout such a system of development. Some degree of concentration of the buildings in certain places is therefore desirable, and would allow a more generous provision of open spaces to be made; on the other hand, the danger of overcrowding the dwellings in one place to allow a larger open space to be obtained in another must be guarded against.

X. OPEN SPACES.

When selecting areas for open spaces it is important to determine the exact purpose for which they are required. For playing fields, level ground is essential, while, provided there is convenient access, road frontage along the edge of the fields is a needless extravagance. On the other hand, where an open space or small park is desired to adorn the town, a certain amount of road frontage must be occupied if it is to serve its decorative purpose. For larger parks, areas of special natural beauty, or grounds attached to buildings of archæological or historic interest, may with advantage be reserved. Water frontages are particularly attractive in connection with parks or promenades, and where a town is fortunate in possessing such advantage, a useful function of a town-planning scheme would be to apportion that frontage between the industrial requirements and those of recreation, and to prevent its being occupied by buildings devoted to purposes for which it offers no advantage. Sometimes the reservation of quite small open spaces may preserve for public use valuable view points of distant prospect or fine existing buildings; in other cases a narrow strip of open space can be reserved within a town area at very little expense, and such strip, suitably planted, may afford a very attractive walk through part of the town, when a more extensive park might be impracticable. Small children's playgrounds, which may occupy corners of back land, are very valuable, as are also small reservations in quiet spots if laid out for a definite purpose.

In the planting of streets or open spaces some definite effect should be aimed at. In some places the avenue will be suitable, in others groups of foliage will be more successful; but broad, simple treatment, with not too much elaboration, will be found to harmonise most successfully with town surroundings. Where trees are to be planted sufficient space for their proper growth should be provided. The successful combination of planting with the architecture of streets and squares is a difficult art, for which a general knowledge of trees and plants affords no adequate qualification.

XI. BUILDINGS.

In the completed town it is the buildings which are seen and produce whatever effect, good or bad, is attained; therefore, the problem of town planning in its final form is essentially an architectural problem. The working out of the exact form in which the requirements can be satisfied so as to produce a fine town is a function of the creative imagination; and it can only properly be performed by one who has had the architectural training necessary to enable him to adjust the proportions of the many parts, so to place the different buildings, and group them upon the ground and in relation to each other that when erected they may compose properly.

The preparation of all the data upon which the design must be based hardly falls within the province of the architect; and it would seem that this formulation of the city's requirements, and of the limits within which the designer must work, is the proper sphere of the surveyor (aided of course by the engineer, the valuer, the economist, the sociologist and the antiquarian). He should survey the conditions, suggest the requirements, and should be consulted as to the methods of satisfying them; but for the design of the town plan, the architecturally trained mind is as essential as for the design of a single building; for the work consists in applying upon a wider field and with greater scope the same principles which govern the designing of individual buildings. The appreciation of the relation of masses and voids, the apprehension of the right points for emphasis, and the power to combine into one creation many differing parts by bringing them into harmonious proportion are equally required in the field of town planning, if there is to be produced that rhythm in the plan, and that spacious breadth of ordered elevation in the groups of buildings, which so largely constitute the beauty and grandeur of cities.

THE LIFE AND WORK OF PROFESSOR COCKERELL, R.A.

A Thesis submitted for the B.A. Degree with Honours in Architecture, School of Architecture, Liverpool University.

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CHARLES ROBERT COCKERELL was one of the most distinguished architects of the last century. His work forms the culminating period of the Greek Revival, that most brilliant epoch in the history of architecture which began in the middle of the eighteenth and extended to the middle of the nineteenth century.

Cockerell was born in 1788, at a time when the great Renaissance movement was fast breaking up. Chambers, "the last of the Romans," who died when Cockerell was eight years old, made a strenuous effort to maintain the best traditions of the English Renaissance; but even in his work the signs of decay are to be seen: while still masculine in character it has lost the vigour and individuality of the work of his great predecessors Inigo Jones and Wren.

Renaissance architecture, following Palladian lines, had reigned supreme in England from the time of Inigo Jones, when about the middle of the eighteenth century there appeared a new factor destined to have a controlling influence over the course of architecture. Architecture became subject to the whim of fashion, the amusement of the dilettante and the virtuoso.

The intense classical education of the age and the great interest taken by the wealthy classes in matters relating to art, greatly favoured the revival of Classic architecture in this country. Extended travel and a knowledge of the fine arts was considered essential to the education of the perfect gentleman. Many of these tourists, desirous of displaying their knowledge, published volumes on Classic art. Works on the antiquities of Rome had been published time after time, and the craze for novelty had in some manner to be satisfied. In 1762 appeared the publication by the Dilettante Society of Stuart and Revett's *Antiquities of Athens*, which at once excited great interest. There arose a mania for Greek art. Architects fell in with the prevailing dilettantism of the time and were content to reproduce Classic forms

irrespective of their purpose. Architecture was considered to be perfect in proportion to its adherence to its Classical prototype.

Cockerell early realised that in Greek art alone is not to be found the solution of the more complex problems of his time. His comprehensive knowledge of architecture led him to take a broader view of his art. If the architects of the Greek Revival had viewed architecture in the same spirit as Cockerell, we should not have had in our midst those buildings, the ridicule of which was so successful in undermining the Classic influence. Side by side with the Classic Revival arose the dawn of the Gothic movement, which reached its height about the middle of the last century. The spread of the Romantic spirit in literature aided the growth of this new movement. At first, attempts were made in Gothic design merely because the virtuosi considered Gothic architecture a favourable field in which to indulge their fancy. It was little thought that the "Strawberry Hill" Gothic was the beginning of a far-reaching revolt against the pseudo-Classic architecture of the Revivalists.

When Cockerell commenced his professional career the battle of the two styles was in full swing. While a few architects such as Cockerell and Burton still clung to Classic, the greater number of the profession fell victims to the passion for all things mediæval. Few of the men of this time had the strength of will to resist the new mediævalism or the pseudo-Classic of the Revivalists.

Now that the enthusiasm for Gothic has exhausted itself, and the attempts to revive immature Renaissance styles have proved transitory, we are turning back to the study of the work of the later architects of the Greek Revival, amongst whom Cockerell holds the pre-eminent position. His work, while simple and dignified, combines the grace and refinement of the Greek with the flexibility of the Italian. So successfully did he evolve a style in the modern spirit that his work may be regarded as forming a connecting link between the old order and the new.

Charles Robert Cockerell was born in London, in April 1788. He was the second son of Samuel Pepys Cockerell, himself an architect of some distinction, and surveyor to the East India House. Young Cockerell received his early education at a private school in the City Road. In 1802 he went to Westminster School, where he remained till he was sixteen, leaving at that early age to enter his father's office. When twenty-one, we find him assisting Sir Robert Smirke, at that time engaged on the rebuilding of Covent Garden Theatre. Smirke in after years always expressed himself indebted to Cockerell for his valuable aid.

About this time his father decided that his son should have the advantages of foreign travel. The greater part of Europe was closed to the British tourist on account of the Napoleonic wars, Turkey and her dependencies being alone accessible.

In April 1810, Cockerell sailed on the *Black Joke*, having letters of introduction, and bearing despatches obtained through the influence of Mr. Hamilton, then Under-Secretary for Foreign Affairs.

After a somewhat adventurous voyage, in which they succeeded in capturing a French prize, Constantinople was reached in June. Here Cockerell stayed several months, making careful sketches of anything of interest. At Constantinople he first met Foster, the architect of Liverpool, whom he describes as "a most amusing youth, but too idle to be anything more than a dinner companion." From Constantinople he proceeded to Athens, where his accomplished mind and agreeable manners soon brought him many friends. Here he fell in with three ardent fellow-workers of congenial tastes and pursuits, Baron Haller, Herr Linckh, and Count Stackelberg, who, with Foster, were to be his close companions in many subsequent expeditions.

For seven years Cockerell was away from England, four of which he spent in Greece. Twice he explored the mainland of Greece and the Islands, returning again and again to Athens. His earliest success was achieved in the month of April 1811. With Foster, Linckh, Haller, and Stackelberg, he set out to visit the temple of Zeus Panhellenius (now attributed to Aphaia) at Aegina. The result of this expedition was the discovery of the famous Aeginetan marbles, which, owing to a mistake on the part of the British representative, were sold to a foreign Government, and now rest in the Glyptothek at Munich. So anxious were Cockerell and Foster to retain the marbles for this country that they generously offered their share of the profits if the British Government made the purchase. The loss of these marbles to this country was a sore disappointment to Cockerell. In the same year Cockerell achieved another notable success in the discovery of the bas-relief marbles at Bassae, the whole frieze of which now rests in the British Museum. It was not till the summer of 1812, however, that the marbles were finally removed, and this was attended with the greatest difficulty. The interference of armed troops necessitated a hasty departure. All the marbles were safely embarked, with the exception of one piece of special interest to architects. The boat had to put off and leave without the Corinthian capital, the earliest known example of the order, but fortunately careful drawings had been previously made. The explorers had the mortification of seeing it hacked to pieces by the troops in their fury at having been foiled.

Travelling in those days was far from comfortable, and was attended with no little danger. In his diary Cockerell, after the return from Bassae, remarks: "We were glad to get to Athens; it was like home to us; for three weeks I had slept with my clothes on, without a bed, and only a blanket in which to wrap myself."

In April of the year 1812 Cockerell crossed over to Malta, and thence to Sicily. After visiting Palermo, he went to Girgenti (Agrigentum), where he remained for two months. His researches at the large temple of Zeus Panhellenius at Girgenti form one of his most distinguished archæological achievements. He devoted his attention to the study of the fragments of the colossal statues, which were thought to have been placed originally near the entrance to the temple. Cockerell collected the fragments of one of these statues, and was able to establish the fact that they were Atlantes supporting the timbers of the roof. The results of his investigations were afterwards published as an appendix to Stuart and Revett's *Antiquities of Athens*.

At Syracuse Cockerell remained for three months examining and sketching the remains of the old fortifications and preparing the drawings for his work on the temples at Aegina and Bassae. This work, however, did not appear until 1860, a few years before his death; it forms one of the most valued additions to our knowledge of Greek archæology. The publication appeared at a time when Gothic was claiming all attention, and consequently did not receive that appreciation which it undoubtedly deserved.

From Sicily Cockerell, in company with Haller, returned to Athens, where he was taken seriously ill, and had it not been for Haller's devotion and attention, would undoubtedly have died. In 1814 we again find Cockerell in Athens, after making a tour through Albania. In the same year he left Athens for Rome, making a stay of some duration at Pompeii, where he collected material for his restoration of a Roman villa. The Napoleonic wars were now over, and Italy fortunately was once more open to the English traveller. Arrived at Rome, Cockerell at once became the centre of attraction in art circles. To quote his own words: "Had I been a little more vain, I should have been out of my wits' ends at the attention paid me here. I have a daily *levée* of savants, artists and amateurs come to see my drawings; envoys and ambassadors beg to know when it will be convenient for me to show them some sketches."

From Rome he fled for quietude to Florence, where he gained great renown by his work on the Niobe group. He prepared a drawing showing an arrangement of the statues in pediment form. This restoration greatly added to his reputation, and is now universally accepted.

It was the fame which he had now gained that brought him the first great professional opportunity of his life. He was invited to submit a competitive design for the erection of a palace for the victor of Waterloo, the Duke of Wellington. He describes his experiences thus: "Although my occupation on the Wellington Palace is an honourable one, and the study and exercise of invention in the course of it may be profitable, yet I cannot help wishing I had never been asked to give an idea for it; for I have spent a deal of time over it, and it will add nothing to my reputation, but rather detract from it. If such a design was difficult to everyone, you may imagine what it was to me, who had never attempted anything original before. I composed general ideas, and finally fixed on one; but when I went into detail I found the difficulties increase immeasurably, and the notions which were plausible while they were vague could not be put into execution. Plan would not agree with elevation; doors and windows would not come into their right places. I invented roundabout ways for simple ends; in fact, I worked furiously, and first realised the practical difficulties of the profession." So difficult did he find the problem that he contented himself with submitting a sketch design, "prettily finished," with an explanation.

This his first attempt at practical design ended in failure. Disappointed, he sent a request to his father to be allowed to give up architecture and become a sculptor, but fortunately the request was refused. Cockerell renewed his studies with fresh vigour, with the object of better fitting himself for his future professional career.

For three years he remained in Italy, and the beautiful sketches and careful measured drawings are evidence of the zeal with which he pursued his studies. His enthusiasm for Italian Renaissance architecture never left him, and its influence is apparent in his later architectural work.

Eventually he returned to Rome, and there completed his well-known drawing of the restoration of the Forum.

In the spring of 1817 he started on his journey home, and, after passing a short time in Paris, arrived in London on 17th June, having been absent seven years.

Within recent years an account of his travels has been published by his son. It is full of interesting episodes, and many of his experiences read like a romance. No discomfort or hardship kept him away from anything worth visiting. His energy was only exceeded by his enthusiasm. To an active temperament, he added that quality so often described as genius, the capacity for taking pains.

During the four years he spent in Greece and its islands, he devoted much attention to the study of sculpture, particularly in its relation to architecture. His researches at Aegina, Bassae, Girgenti, and elsewhere, enabled him to grasp the true relationship of the two arts, a power so well exemplified in his later works.

His three years of study in Italy gave him that power of adaptability and resourcefulness in design, while his earlier travels in Greece enabled him to give to his design that grace and refinement which distinguish all his work.

The life of Cockerell is an example of the truth expressed by Sir Joshua Reynolds in his Second

Discourse: "The more extensive your acquaintance with the works of those who have excelled, the more extensive will be your powers of invention."

By the time he returned to England Cockerell was twenty-nine years of age. For some time he was engaged on working out the results of his archæological researches. He had intended to publish, in collaboration with Haller, a history of Greek art, embodying the results of their investigations and researches, but the death of his friend in 1818 so distressed and disheartened Cockerell that he abandoned the work.

Cockerell's unfortunate dislike for writing has lost him much of the credit he might otherwise have reaped. We are told by his son: "His collection of inscriptions was picked over by Walpole; Hughes fills his pages with his letters; Bronstedt uses his drawings; Stackelberg relates the discovery of the bas-relief at Phygaleia; Wordsworth plundered his portfolio." It was only by the help of the writings of others that his son was able, from a disjointed and often undated diary, to give an account of Cockerell's travels.

Cockerell had already tried his "prentice hand" at design while still abroad in the competition for the Wellington Palace, but it was not till he had reached the age of thirty that he carried out his first commission.

The Literary and Philosophical Institution, now the Freemasons' Hall, at Bristol, was his first real work. The extreme declivity of Park Street in which it was erected, rendered this work difficult both æsthetically and practically. Notwithstanding the difficulties of the site and a scarcity of funds, this, his first building, is marked by that sense of proportion and delicacy of detail which is so characteristic of his after work. The bold sweeping Corinthian portico is of exquisite detail, the order being based on the example found at Bassae. The main cornice is rather weak, while the attempt to emphasise the corners by the use of thin pilasters is somewhat feeble. We see this feature of design more strongly emphasised, and used to greater advantage, in his later works.

FIG. 1.—LITERARY AND PHILOSOPHICAL INSTITUTION, BRISTOL. C. R. COCKERELL, ARCHITECT.

After making some additions to Harrow School, and erecting a chapel at Bowood for the Marquis of Lansdowne, Cockerell was entrusted with the erection of Hanover Chapel in the then newly formed Regent Street.

The lingering sentiment which regards Gothic as the only style suitable to ecclesiastical purposes, did not then exist, and this classic design with its Ionic portico was not thought to be at all inappropriate.

FIG. 2.—HANOVER CHAPEL, REGENT STREET, NOW DEMOLISHED. C. R. COCKERELL, ARCHITECT.

The problem which Cockerell was called upon to solve was full of difficulties. In accordance with ecclesiastical tradition, the altar had to stand at the east end of the church, the only end available for the entrance. Insufficient space on the ground floor compelled the providing of two galleries, one above the other, and the site being hemmed in on both sides, only one front was left for architectural treatment. To give importance to this façade to Regent Street, and to disconnect it from the adjacent buildings, Cockerell raised towers at either extremity, while to give an imposing effect to the elevation he projected the Ionic portico. By his skilful planning and originality of design, Cockerell successfully solved a difficult problem. The result

was a simple dignified structure, refined in detail, and in every way suitable to the purpose for which it was intended.

Before Hanover Chapel was completed, Cockerell was engaged, in collaboration with Playfair, on the Scottish National Monument on Calton Hill, Edinburgh. The exterior was to be a reproduction of the Parthenon, the interior being intended for a church, and the porticoes and vestibules to receive commemorative statues. Owing to lack of funds it was never completed. However highly we may appreciate the Parthenon of the Acropolis, it is not by its reproduction in our climate that we best show our appreciation of that most perfect of buildings. In its unfinished state, it remains as a picturesque monument of ill directed effort and waste on the part of the Scotsman!

Cockerell engaged with varying success in several large competitions, amongst these being the University Library, Cambridge, the competition being limited to the following architects: Messrs. Wilkins, Decimus Burton, Rickman and Hutchinson, and Cockerell. The design by Rickman and Hutchinson was selected as best conforming to the conditions laid down. A more than usually fierce controversy followed this decision, the design by Cockerell being considered by many to have the best merits. Finally, after a lapse of six years, the same parties were again invited to submit designs, with the result that the scheme by Cockerell was preferred. Only the north wing, however, of this design was ever carried out. In the first scheme, Cockerell adhered to a certain extent to the conditions, making his courtyard 100 feet by 60 feet, but in his final design he took advantage of the width of the site, and set back his buildings to obtain a courtyard 100 feet square. In both designs, regard for the scale of the neighbouring Senate House by Gibbs is closely studied. His first design is simple and well proportioned, but the treatment of the corners is not happy. The attached column with the broken entablature not only disturbs the repose of the whole design, but also tends to weaken rather than strengthen the corner. Had the final design been carried out in its entirety, it would have been, perhaps, his finest work. Bold in its conception, its severity is relieved by the grace of its Ionic portico, which is here so admirably used. The building is simple and broad in treatment, and it is to our great loss that only a small portion of the design was carried out. The corners are strongly designed, while the portico with its row of columns and unbroken entablature surmounted by figures possesses an admirable richness of effect, in contrast with the plain mass of the rest of the building.

That the same architect should have been the author of the design for the Royal Exchange is incredible. The composition of the front elevation is suggested by the lower story of the Grimani Palace, yet it has none of its fine qualities. Instead of the pilaster treatment of the Grimani, we have free standing columns serving no other purpose than the support of figures. The treatment of the attic is unfortunate, while the towers are weak in design. The broken entablature carrying figures disturbs the appearance of the façade and deprives it of all repose. It is, perhaps, fortunate that this design was not carried out, and yet it is not so bad as the "warrant" design for St. Paul's by that greatest of all English architects, Sir Christopher Wren, showing that even men of undoubted genius are not always happy in their ideas.

In 1832, while the final result of the Cambridge University Competition was still in doubt, Cockerell was engaged on the erection of the Westminster Insurance Offices in the Strand. This building contains many of those features which he afterwards used in his designs for the provincial branches of the Bank of England. If we compare this building with his Bank of England at Liverpool, we realise its shortcomings in design, and see the great improvement attained by the readjustment of parts, and the refinement of detail, which Cockerell effected in this later design.

In the Westminster Insurance building, the cornice to the order and the attic cornice are too similar in scale and design. The uniform treatment of the windows throughout each story, and the repetition of the same features in bay after bay, produce a monotony avoided by Cockerell in his later work. The whole building has a too mechanical appearance, intensified, no doubt, by its being executed in stucco.

In the same year he was appointed architect to the Bank of England, on the resignation of Sir John Soane. In this capacity he erected the new Dividend Offices in Threadneedle Street, taken down in 1848 to make way for the present Drawing Office, also designed by Cockerell.

His next important work was the London and Westminster Bank, Lothbury. This was erected in 1837 in collaboration with Sir William Tite. Both Cockerell and Tite had friends on the Board of Directors, and as neither the architects nor the directors desired a competition, Cockerell agreed to work with Tite. The exterior was designed by Cockerell, while the interior, since much altered, was chiefly the work of Tite.

The treatment of the surface and jointing of the stonework are always leading factors in Cockerell's buildings, and are here made to play the most important part in the design of the façade. Beginning with the deeply-cut tooling of the base, over which is the plain stonework to the height of the ground-floor windows, the rustication of the piers and of the attic story bring into prominence the cornices and the other architectural features with telling effect. The attic cornice, enriched with lions' heads, is of slight projection, and does not in any way detract from the

FIG. 3.—WESTMINSTER INSURANCE BUILDING, STRAND (NOW DEMOLISHED).
C. R. COCKERELL ARCHITECT.

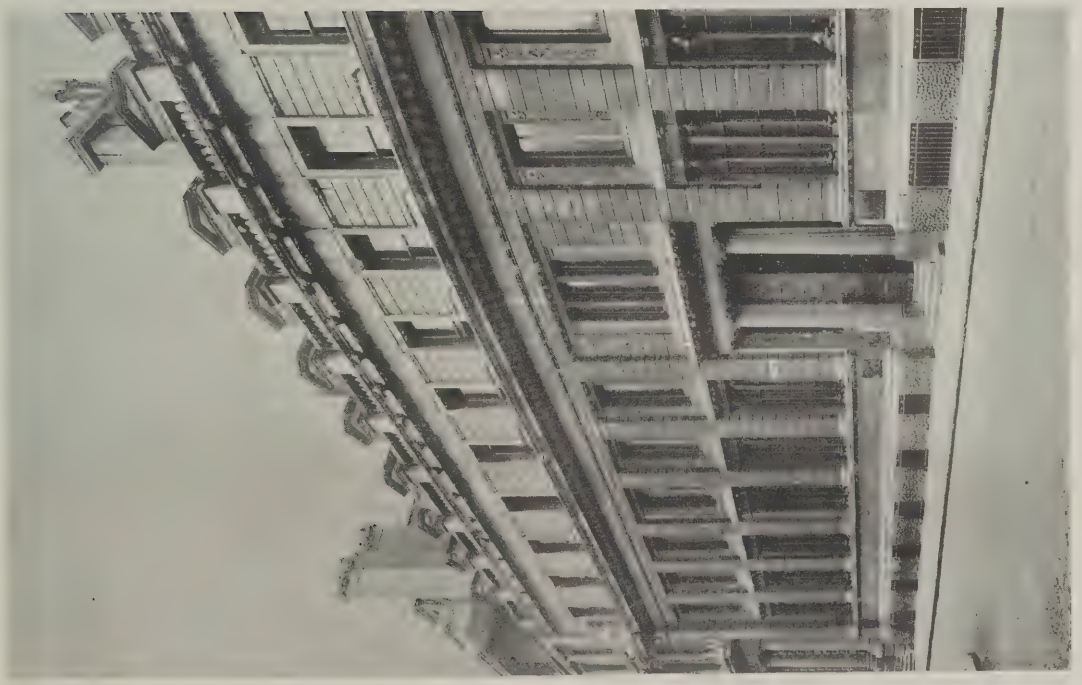


FIG. 4.—LONDON AND WESTMINSTER BANK, LOTHBURY. C. R. COCKERELL, ARCHITECT.

predominance of the lower main cornice. The extended bay occupied by the main entrance, and the varied treatment of the windows above, give the due prominence essential to a bank entrance.

The Sun Insurance Office in Threadneedle Street, London, erected in 1842, is obviously a building for business purposes, and demonstrates at once the adaptability to modern requirements of the style which Cockerell had by this time made his own. While the design is Greek in feeling, Classical motives are used with a freedom never before attempted. The entablature to the Doric order of the main entrance is much reduced in depth, while the cornice to the Corinthian order is proportioned to the building as a whole. The attached columns enclosing the two upper stories give just the required degree of lightness, while the treatment of the corners, with the angular rustication, the plainer wall surface, and the omission of the upper floor windows, give that extra strength at the angles required. Within recent years the design has suffered so much by the addition of an extra story that the whole of the proportions of the buildings have been altered.

FIG. 5.—SUN FIRE OFFICE, THREADNEEDLE STREET, PREVIOUS TO RECENT ALTERATIONS. C. R. COCKERELL, ARCHITECT.

In the Liverpool and London Insurance Buildings, Liverpool, Cockerell employed a similar motive as

in the Sun Fire Office, but with a much less satisfactory result. Though this building at Liverpool was the last work of Cockerell, it is convenient to describe it here, as it bears such a close resemblance to the Sun Fire Office in London. The elevation to Dale Street is well thought out; the entrance is boldly treated and yet refined in its detail. The swags over the entrance doors are slightly carved on the surface, and that appearance of being applied to the stone which the swag made to represent against the staircase carrying an unnecessary and meaningless bracket is indefensible. The main cornice to the centre block is at a lower level than the cornice to the wings, but too slight to create a sufficient contrast in general mass. Though a building of considerable size, the smallness of parts prevents one realising its magnitude. There is a lack of unity in the design, due perhaps to over-elaboration of detail.

As architect to the Bank of England, Cockerell

FIG. 6.—LIVERPOOL AND LONDON INSURANCE BUILDINGS, LIVERPOOL. C. R. COCKERELL, ARCHITECT.

natural foliage often possesses is here avoided. These swags have rather a heavy appearance, due to the subsequent cutting away of ribands and the application of a stone preservative, which has imparted to the carving a very cast-iron appearance. The elevation to the Exchange is disappointing. The staircases are made to appear externally, and, while certainly an original treatment, is not very satisfactory. The single Doric column placed carried out in the year 1844 branches at Plymouth, Manchester, and Bristol; while in the following year he erected the branch at Liverpool.

The branch at Plymouth is a plain building, with little architectural pretension. It nevertheless has a quiet dignity well befitting a small bank.

The three banks at Bristol, Manchester, and Liverpool bear a close resemblance in plan and architectural treatment. The same motives are

employed, namely: the decorative use of the order surmounted by an attic; the windows with projecting balconies; the three large windows to light the banking hall; the pedimental treatment of the gable, which is so admirably employed at the Liverpool branch.

These several bank buildings impress one's mind at once with their purpose; they possess those qualities which we should expect in a building to house the great national bank. While dignified, reticent, bold and refined, they rely more on their sense of proportion than on elaboration of detail. Everything is subordinated to produce a definite impression. The compositions show originality of thought and ability to refashion classical forms to suit modern requirements.

FIG. 7.—BANK OF ENGLAND, BRISTOL. C. R. COCKERELL, ARCHITECT.

The bank at Bristol is the least successful of these three branch banks. The two entrance doorways are insignificant, and seem somewhat applied to the main part of the building. The ending of the façade against thin projecting piers is not satisfactory; while the increased projection given to the cornice, carried on brackets, has a rather clumsy effect. Some of the detail appears rather crude, particularly the impost mould to the arched windows under the pediment.

The branch at Manchester is more satisfactory. It is broad in treatment, and altogether a good composition. The main entrance in Pall Mall, with the strong rusticated arched opening, is very effective, and is admirably suited for the entrance to a bank.

The elevation to Pall Mall gains greatly by the suppression of the lower cornice. If the cornice had been similarly suppressed at the two corner bays in the elevation to King Street, I think the effect of the whole design would have been materially enhanced. The conflicting effect of the two cornices of nearly equal projection and the unsatisfactory treatment of the angle would have been avoided. This use of the three-quarter column has the same effect of weakening the corner which has been noticed in his first design for the University Museum at Cambridge.

Cockerell in all his work paid great attention to the masonry of his façades. He seems to have had a preference for the use of large stones, and their size and proportion were made to play a subtle part in the harmony of his designs. In all matters of detail he took infinite care, and the management of the rustication at the angles and against the moulded architrave of the windows is worthy of notice.

The Bank of England, Liverpool, the last of the series of banks, is one of Cockerell's finest works. In this design is embodied and perfected the motives previously used. The use of the massive Doric order gives strength to the composition, while the very massiveness of the columns imparts to the design a superb grandeur. The attic story

is slightly set back from the main block and cleverly linked up with the lower story by the introduction of a balustrade, which effectively conceals and overcomes the difficulty of the junction between the attic and the lower story. The introduction of projecting balconies with light ironwork fills in the space between the columns, breaking up the vertical lines and giving a richness of effect which materially contributes to the design as a whole. The archivolt to the window in the gable ending in lions' heads is perhaps too reminiscent of the Gothic label mould. The well-marked rusticated courses at the corners assist in giving scale to the whole conception. The pedimental

FIG. 8.—BANK OF ENGLAND, MANCHESTER: ELEVATION TO KING STREET. C. R. COCKERELL, ARCHITECT.

treatment of the gable to Castle Street is wonderfully effective; no doubt owing to the omission of the main cornice across the pediment. In the flank of the building to Cook Street the two cornices have no conflicting effect, owing to the manifest difference in detail and projection. This elevation is bold and impressive, and the three large arched openings lighting the banking hall, with their immense quoins, all help to give the impression that this is a bank.

Whilst Cockerell was engaged on these branches for the Bank of England he was erecting at Oxford that building by which he will always be best known—the Taylor and Randolph Institute. Won in competition in 1841, it was not completed till 1846.

Sir Robert Taylor, himself previously architect to the Bank of England, left in his will a large sum to found a college in Oxford for the study of modern languages. Other bequests having been made by Dr. Randolph for a picture gallery and by a Mr. Shalmondeley for the preservation of the Arundel and Pomfret marbles, the University contributed a considerable sum, and in 1840 invited designs for the erection of a building to meet the various intentions. From the designs submitted that of Professor Cockerell was selected.

The plan is an E-shaped block, two wings being united by a long, low gallery, in the centre of which is an Ionic portico of beautiful proportions. Seen in perspective, the wings unduly preponderate over the central mass. The motive, however, which led to this disposition of the buildings is clearly apparent, and should be taken into consideration when estimating the ability with which the architect executed his task. The elevation to St. Giles' required an imposing front, being one of the first University buildings seen in the approach to Oxford from the west. At the western extremity, facing Beaumont Street, the building is attached to some ordinary dwelling-houses, 40 feet high, and extra height was therefore necessary to give an importance and render the design distinct from the adjacent buildings.

The end of the building facing St. Giles' is appropriated to the Taylor Institute, and contains five large lecture rooms, and on the first floor a fine library—a cube of 40 feet. The entrance to the

Institute is gained from an open corridor, of fine design, leading from St. Giles' to the courtyard.

(Photo. Bedford Lemere & Co.

FIG. 9.—BANK OF ENGLAND, LIVERPOOL. C. R. COCKERELL, ARCHITECT.

The west wing, and the central mass connecting the two wings, are used on the ground floor as a museum, and on the upper floors for picture galleries. This section of the building is entered from the portico, on the right of the entrance being placed the staircase to the picture galleries, and on the left an extensive gallery, in which are placed the Arundel marbles. The mode of lighting this

gallery is worthy of notice, the windows being placed partly above the ceiling level, allowing the wall space under to be utilised for the exhibition of sculpture.

The whole site is raised on an artificial terrace about eight feet high, allowing the provision of a spacious basement for caretaker's and storage rooms.

In the wings Cockerell again uses the decorative order, surmounted by an attic story. We have two cornices running parallel to one another, but any rivalry in effect, which is particularly noticeable in the Bank of England at Manchester, is here junction. While it was perhaps for this reason that the three-quarter columns are used, no such excuse can be given for the detached columns in the elevation to St. Giles' supporting nothing more than figures, and yet they have a richness of effect as contrasted with the plain background which cannot be denied. The result appears to justify the means, but it is, nevertheless, a wrong use of such an essentially constructive feature as the column. The bolder treatment of the attic cornice, with its consoles, gives it at once the required predominance over the lower cornice. In the gallery connecting the wings, the cornice to the

FIG. 10.—THE TAYLORIAN INSTITUTE AND ASHMOLEAN MUSEUM, OXFORD. C. R. COCKERELL, ARCHITECT.

reduced to a minimum. The projection of the lower cornice is suppressed (except where it breaks round the columns) to such an extent that it partakes more of the appearance of a rich band. The omission of the cornice under the semi-circular windows also tends to lessen any conflicting effect between the two cornices. This feature, far from being objectionable, is rather pleasing, and determines the whole design of the wings. More light was needed for the library, and hence Cockerell carried the frieze only across, omitting the cornice and architrave. To atone for the loss of the cornice the archivolt is given a bold projection, to receive which the entablature is broken forward, the urn being introduced to surmount the difficulty of the order becomes the main cornice to the building, its importance being increased by the addition of another member, and by giving greater projection to the dentils.

The portico is perfect in its proportion. The Ionic order is of great elegance and beauty, and is a clever adaptation of the example used at the temple of Bassae.

The roof and chimney stacks, to conceal which the early architects of the Greek Revival took such pains, are here frankly shown with good effect. The chimney stacks are well designed, while the method of covering the roof is worthy of remark. Large slates 5 feet by 3 feet by $\frac{3}{4}$ inch rest on purlins about 5 feet apart. The vertical joint is covered with a

slate fillet 3 inches by ¾-inch, which is secured to the slate underneath, while the horizontal joints are made to overlap about 3 inches.

This building is unquestionably a work of great elegance and especial beauty in its detail. There is no moulding which has not received most careful study. It possesses a quiet dignity and a reticence of design which make it in every way worthy of the great university town in which it is built. While possessing the grace and refinement of the Greek, this building is Italian in inspiration. The Taylor and Randolph Buildings demonstrate at once the pliability of the style which Cockerell had adopted. This building was not completed till 1845 when Gothic was the prevailing style. Only in recent years has it received that appreciation which it deserves. Pugin, in his misguided enthusiasm for Gothic, called this building "an unsightly pile of pagan detail, stuck together to make a show." He concludes by saying, "if it may please the admirers of gin-palace design, it will draw down the indignation of every true disciple of Christian architecture." Even Professor Freeman, from whom we should have expected a more liberal view, is hardly less violent in his criticism. Such was the height of folly to which misguided enthusiasm carried the architects of the Gothic Revival. How different in spirit was the attitude of Cockerell to the Gothic school! In his lectures before the Royal Academy and in his writings he constantly expresses his admiration of Gothic architecture, and he twice ventured on Gothic design, in his St. David's College, Lampeter, and in some almshouses at Woodbridge. These buildings, though in a design foreign to Cockerell's training and leanings, possess a simplicity and breadth of treatment, qualities lacking in much that was done by the strict devotees of the Gothic movement.

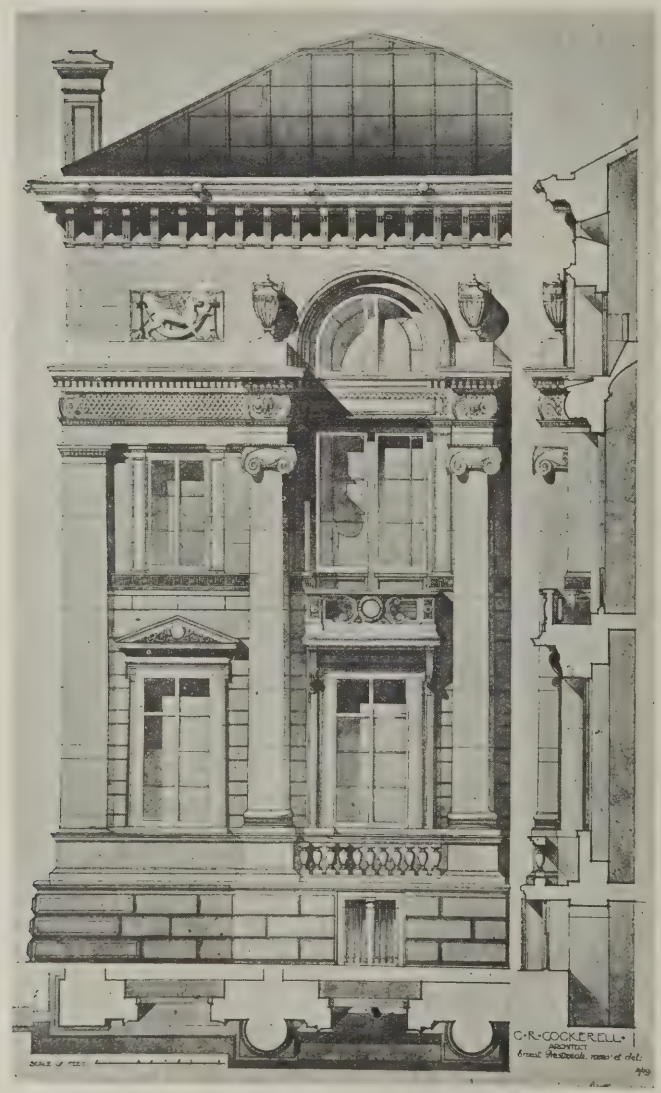


FIG. 11.—THE TAYLORIAN INSTITUTE AND ASHMOLEAN MUSEUM, OXFORD: DETAIL. C. R. COCKERELL, ARCHITECT.

In addition to carrying out his own work, Cockerell was called upon to complete two buildings left unfinished at the death of their architects. The first building was the Fitzwilliam Museum, Cambridge, of which Basevi was the architect. Cockerell's work was chiefly confined to the interior, but little trace of his work remains, as the interior suffered alteration at the hands of E. M. Barry. The late Sir Digby Wyatt was requested to devise some scheme for increasing the width in front of the staircase. On examination of Cockerell's drawings, he was so impressed with the extraordinary care with which the staircase had been set out, that he positively refused to make any alteration. No such scruples possessed E. M. Barry when he erected the present staircase with its gaudy marbles. The ceiling of the hall, which is still in existence, displays the same minute care in design. To correct the optical illusion formed by the appearance of sinking in the centre of the flat portion of the ceiling, the lines are given a slight curve.

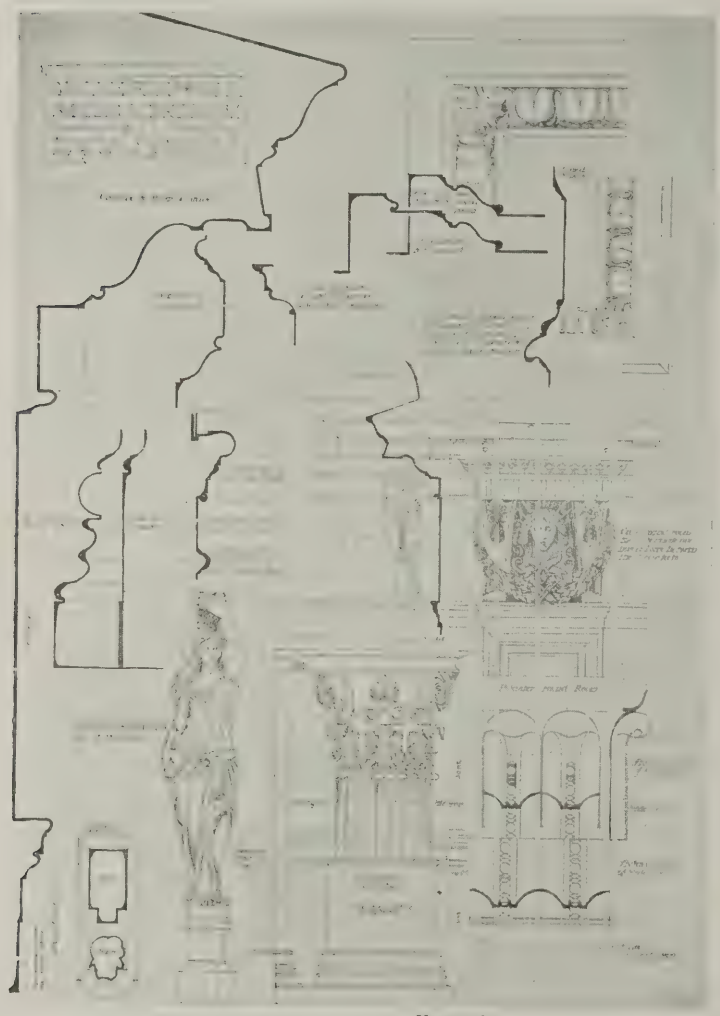
To this habit of taking pains, which Cockerell no doubt acquired during his archæological researches, much of the beauty of his work is due.

The second building is St. George's Hall, Liverpool, the masterpiece of the Classic Revival, and one of the finest buildings in Europe. Cockerell's first official connection with this building was in July 1846, when on the advice of Elmes he sub-

FIG. 12.—ST. GEORGE'S HALL, LIVERPOOL : INTERIOR. COMMENCED BY H. L. ELMES, ARCHITECT, FINISHED BY C. R. COCKERELL.

mitted his design for the sculpture for the pediment over the south portico. Elmes had more than once consulted Cockerell during the progress of the work, and had seen and expressed his admiration of this sketch for a pediment three years before.

In November 1847 Elmes died in Jamaica. Before he left England he prepared a full set of drawings for the completion of the work, even to the finishing of the great hall itself. In the year 1849 Cockerell's design for the pediment was carried out by Nicholl, a drawing suggesting a few minor alterations being made by Alfred Stevens, which was published. It was not till 1851 that Cockerell was appointed architect to complete the work. During the four years that elapsed between the death of Elmes and the appointment of Cockerell, the work had been proceeding under the direction of Rawlinson, the city surveyor, in strict accordance with the drawings left by Elmes. It was at Rawlinson's suggestion that an architect was appointed. When Cockerell undertook the work the exterior of the building was complete, while of the interior, the Law Courts, library, entrance halls, jury rooms, and corridors were finished, also the constructional part of the ceilings of the great hall and the small concert room, and the external approaches had been partly laid out.



Measured and drawn by Ernest Gee.

FIG. 13.—ST. GEORGE'S HALL, LIVERPOOL : DETAILS OF SMALL CONCERT ROOM. COMMENCED BY H. L. ELMES, ARCHITECT, FINISHED BY C. R. COCKERELL.

To Cockerell is due the completion of the laying out of the eastern side of the site facing Lime Street. The simple treatment is in admirable harmony with the building, and conduces much to the imposing effect of this great work of Elmes. It is much to be regretted that a similar restraint and respect for the building has not been exercised in the recent laying out of the site to the western side of the building.

The sculpture of the south pediment, to which I have already referred as being designed by Cockerell, is perhaps the finest example of sculptural composition of modern times; it is truly worthy of the building it adorns.

Of the interior, Cockerell designed all the decorations and most of the fittings. The small concert room and the finishing of the large hall are from his hand. With regard to the latter, it is said that Elmes made a perspective sketch of the interior in a fit of genius in twenty-four hours. In this sketch the main piers carrying the vault are brought down to the ground, the screen walls supporting the gallery being sufficiently recessed to allow of their ending against the piers. In the work as executed, the columns only are continued down uninterrupted to the floor, and the screen walls are brought forward and conceal the lower portion of the piers. From the photograph it will be seen that this is not satisfactory, and that the more structural lines of the piers maintained in Elmes' sketch are æsthetically to be preferred.

The screen wall is of beautiful design, and the use of different coloured marbles is made with admirable judgment and good taste. The series of bronze doors were designed by Cockerell, and are among the finest examples of modern Classic metal work.

At either end of the hall are two semi-circular

windows which Cockerell had intended to be filled with plain glass set in metal grilles of the scallop-shell pattern. The grilles were never carried out, and the gaudy coloured stained glass which was inserted, together with the recent colour decorations, detract much from the appearance of this magnificent hall.

The small concert room over the north vestibule, of which I illustrate some details, is a design of great elegance and refinement. Of all Cockerell's interiors, this is the most pleasing.

St. George's Hall and the Liverpool and London Insurance Offices, Liverpool, were his last works. In 1859 he retired from practice.

During the whole course of his professional life, Cockerell never ceased to give his aid to the academical side of his art. His restorations of Classic work are of singular beauty. No mere archæologist could have restored to life with such success the remains of antique art. To the profound knowledge that he possessed of his subject, he added the skill of an accomplished draughtsman. The restorations of the Roman Forum, the Baths of Caracalla, the Acropolis of Athens, the theatre and a house at Pompeii, and the mausoleum of Halicarnassus, remain to us as examples of his exceptional ability as a draughtsman and his learning as an archæologist.

In 1838 appeared his famous drawing "A Tribute to the Memory of Sir Christopher Wren" —a composition in which are portrayed the works of that master, all drawn to a uniform scale.

In 1840, at the age of fifty-two, he was appointed Professor of Architecture to the Royal Academy, and held the position for seventeen years. His lectures are full of interest, and are the result of great labour and personal research. The late Professor Aitchison, who was one of his students, thus speaks of the services Cockerell rendered to his profession by his lectures: "Being a traveller, a scholar, a man of reading, an admirable draughtsman, a distinguished architect, and possessing a splendid architectural library, he not only presented to the students admirable drawings of the works of former times, opened out to them all the recondite literature of architecture, but stimulated them to rival the best of their predecessors, and did not fail to draw their attention to the merits of former works, nor to warn them against the errors into which some of the great architects had fallen. The lecture room was always crowded with members of the Royal Academy, students, and others, anxious to hear him and see his illustrations."

One drawing he always hung up at his lectures and called his "drop-scene." It was a great chart, 14 feet by 10 feet, showing to scale the most important buildings of the world. This drawing is now in the South Kensington Museum, having been presented to that institution by his son.

Soon after his return from his travels he was appointed surveyor to St. Paul's Cathedral, and at the age of forty-five succeeded Soane as architect to the Bank of England. He was a D.C.L. of Oxford; at the age of forty-one he was elected an Associate of the Royal Academy, and seven years later a full Academician; he was the first to receive the honour of the Royal Gold Medal, awarded to him in 1848, and in 1860 he became the first professional President of the Royal Institute of British Architects. He was a Chevalier of the Legion of Honour, and one of the eight foreign associates of the Académie des Beaux-Arts of France. He was elected member also of the Academy of St. Luke at Rome, of the Royal Academies of Belgium, Munich, Berne, Denmark, Genoa, Athens, and of the American Institute of Architects.

In 1828 he married the daughter of John Rennie, the engineer of Waterloo Bridge. It is to his son, Mr. S. Pepys Cockerell, who published his father's diary, that we are indebted for much information concerning the life of Professor Cockerell.

Cockerell died in 1863, and was buried in St. Paul's Cathedral, close by Sir Christopher Wren, and near to his father-in-law, John Rennie.

The following authorities have been consulted in the preparation of this thesis:—

"The Work of Professor Cockerell, R.A." By J. M. Brydon. (JOURNAL R.I.B.A., 1900.)

"Charles Robert Cockerell, R.A." By the late Professor Aitchison, A.R.A. (TRANSACTIONS R.I.B.A., 1889–90.)

"The Greek Revival in England." By Lionel B. Budden, M.A. (JOURNAL R.I.B.A., 1909–10.)

"The Life and Works of Charles Robert Cockerell, R.A. By the late Robert Pepys Cockerell. (*Architectural Review*, 1902.)

"The Life and Work of Harvey Lonsdale Elmes." By Ronald P. Jones. (*Architectural Review*, 1904.)

REVIEWS.

LONDON ARCHITECTURE.

A History of Architecture in London. By W. H. Godfrey. 8o. *Lond.* 1911. *Price* 7s. 6d. *net.* [*B. T. Batsford,* 94 *High Holborn.*]

An excellent and praiseworthy book which well fulfils the author's intention, as modestly stated in his preface, and, to our thinking, goes considerably beyond it. The title seems to be something of a misnomer, as the book is palpably a guide, and an admirable and most attractive one, to the historical study of architecture in London, rather than a history. However, "What's in a name?" and the book is one to be welcomed not only by "the person of ordinary education who has not any technical knowledge," but also by the thoroughly instructed in architecture, as a most useful chronological record and a stimulant to memory, and observation. Though, necessarily, largely concerned with dates and details, the text runs fluently, and is never over-technical, dry, or boring. The illustrations, for the most part, are as good as the text; some of the photographs, which must have presented considerable difficulties of lighting and point of view, excite our admiration, and the inclusion of several old prints, Hollar's and others, increases the charm and value of the series, but that of a rather slight, though pretty and suggestive, sketch of the modern Cathedral at Westminster, as an illustration of Byzantine architecture, seems to be somewhat misplaced.

Mr. Godfrey, in his Introduction, speaks rather slightingly of the Egyptians and Assyrians, who, he says, "through long cycles of years and successive dynasties contrived little more than a certain decorative quality in building." We cannot by any means endorse that statement, and regard the stern and masculine trabeated manner of the ruined temples, left by both nations, as the obvious precursor of Grecian splendours.

"Architecture," says our author, "began with the Greeks. It was the invention of the Hellenic peoples." This seems to us an over-dogmatic assertion, no safer indeed than that of eighteenth-century pedants who asserted that architecture also ended with the Greeks. And to speak of architecture as "invented" by any race is surely a misuse of terms, for the gradual evolution of definite forms in building, unconsciously dictated by materials, by use, and needs, and racial aspirations, can hardly be described as invention. We think Mr. Godfrey wrong in his view that "the Greek architects, with the one idea of proportion in view, *selected* [the italics are ours] the simplest type of construction possible." This is to make proportion—admittedly the chief essential of noble building design, which must ever be the outcome of combined aspiration, artistry, and constructive knowledge—the end in itself, instead of part of the prime means to the end. To say that they "selected" a type, seems to suggest a deliberate choice between existing and cognate manners, instead of the evolution and perfecting of their own type under their splendid and stimulating climate, through the long sequence of failures and successes, under the controlling limitations of their materials, such as the obtainable lengths, depths, and breadths of marble lintels, the controlling influence, on spans, of the accessible lengths of timber, &c., and always under the conditions of use, ritual, or habit, religious, civic or military.

Mr. Godfrey seems indeed throughout this Introduction, otherwise excellent, and always interesting, to attribute to the ancients a pronounced and indeed modern self-consciousness in architecture, which we are far from accepting. He says that "if the Romans of the Augustan period had thought their own construction worth developing into an arched architecture pure and simple, they would no doubt have devised earlier the style which we call Byzantine." This seems again to imply a deliberate eclecticism in architectural manner, rather than the assimilation of the style of a foreign and conquered nation and its adaptation to constructive needs, which characterised the Romans, who were great conquerors and adaptors, and also great builders and engineers, but not often great artists. It further appears to confuse the formative influences of the East and the West in the development of the "Byzantine" style. No great and original School of Architecture could ever arise from the deliberately intellectual choice of a type; the forces that generate and control architectural evolution are deeper and wider than that. That we have devoted so much time to the author's Introduction is due to the fault, or the merit, of what is a highly interesting essay.

For the series of good chapters that follow we have little but praise. The chronological sequence of style, and the steady evolution from Norman or Romanesque, through Tudor Gothic to the early Renaissance, is scholarly, lucid, and well sustained, and the author's erudition and enthusiasm carry him and his readers pleasantly and profitably through the picturesque and fascinating period of rapid change in the seventeenth century, with instructive and sympathetic glimpses of Inigo Jones, of Wren, Gibbs and their followers, to the less exciting and more academic excellences of the Georgian period, when scholar architects, carefully trained to their craft, began to exercise a pervasive influence upon popular building. Mr. Godfrey has, as we think, done very well to illustrate this period by humble domestic examples like Smith Square, Westminster, and sundry unobtrusive doorways, or the charming little commercial instance of the tobacco shop in the Haymarket, as well as by the more striking instances of churches and public buildings.

Great care and labour have gone to the making

of this book, and it is rendered doubly useful, to the student or amateur, by a good index, and by the excellent final arrangement of interdependent numbered lists of buildings, and maps showing the numbers in position. We heartily recommend it to all who care for architecture, for antiquity, or for London and its history, and especially to all Metropolitan architects who do not know their London, or Greater London, as well as they should.

Mr. Godfrey's book will perhaps accentuate for many of us the futile regret that the fine and interesting buildings he illustrates, and the others which exist in the area of London, as he somewhat liberally interprets it, should be so scattered, so swamped, for the most part, amid the dismal acres of repulsive or featureless nineteenth and twentieth century creations, as to provide hardly architectural leaven enough to leaven the whole lump of this stupendous capital.

EDWARD WARREN, F.S.A. [*F.*].

RUINS OF MEXICO.

The Ruins of Mexico. Vol. I. By Constantine George Rickards. Large 4o. Lond. 1910. *Price* 42*s. net.* [*H. E. Shrimpton, The Quadrant Photograph Stores,* 105 *Regent Street, W.*]

The author of this work, Mr. Constantine G. Rickards, in his introduction frankly states that "there is nothing scientific, literary, or new in this little work; it is only a collection of photographs got together in my wanderings among the ruins of Mexico." The photographs in question, however, are of great interest, and the combination in one volume of examples of the principal architectural remains of every province enables comparison to be made of the varieties of style which are found in them. Of the 260 plates about half are of architectural subjects, and if these could have been accompanied by plans of the buildings, most of which were published in Stephens' works in the 'forties, it would have added greatly to their value from an architect's point of view. It is to be hoped that Mr. Rickards will endeavour to remedy this defect in the second volume he proposes to publish, and if they could be accompanied by a plan of the country, showing the relative position of the various States and of the more important groups of buildings, it would render more clear the description he has written of the several States.

The author is of opinion that the various styles found in Mexico originated on the American continent, and that, although there is a slight similarity found now and then in details common to other cultures of the Old World, these "when studied are nothing more than the outcome of the ordinary sense given to primitive man and by means of which he was able to dominate his fellow creatures." One cannot help being struck, however, with the remarkable resemblance of some of these buildings to those found in Eastern India: thus in the Castle of Chichen Itzá (p. 47) the position of the temple on the top of a lofty pyramid, with an immense flight of steps leading to it in front, is more or less identical with the temples of Suku in Java, so much so that Fergusson, in his *History of the Architecture of Further India* (p. 439, 2nd edition), refers to their extraordinary likeness to the contemporary edifices in Yucatan and Mexico, and comes to the conclusion that the building races of Central America were of the same stock as the native inhabitants of Java. The dates ascribed to the buildings in Java run from 1150–1450, periods which might well be given to those in Yucatan.

Again, the baluster shafts which decorate the façades of the temples of Labnah (p. 56), of Kewid (p. 60), of Chagmultun (p. 63), and of the palace of Zayi (miscalled Layil, p. 74), bear a close resemblance to the baluster screens of the temples in Cambodia, where, however, they have a definite object—viz. the enclosure of window openings—whereas in Yucatan they are simply wall decorations which have a distinctly wooden origin, as possibly was the case in both examples.

The most remarkable constructional features in Yucatan are those employed in the vaulting of their halls, such as those of Uxmal (pp. 26, 31, 33, and 35) and of Labnah (p. 56). These vaults are built in horizontal courses of masonry, each course projecting over the one below with a flat slab at the top, incorrectly termed keystone by the author; and here again we find a similarity to the galleries or porticoes of the temples in Cambodia, all of the same construction in horizontal courses. This method of covering over the halls is not the only one, as in the palace of Mitla, of which a large number of illustrations is given (pp. 90–103), the roofs (all gone) must have been of timber in some cases, as shown on p. 90, carried on monolith columns. On the ruins of Mitla an extremely interesting paper was communicated in September 1904 by one of the Fellows of the Institute, Mr. Charles Grove Johnson. This paper was accompanied by plans, elevations, and photographs of the palace, which were reproduced in our JOURNAL [24 September 1904, vol. xi.] and contained many suggestions as to the origin of some of the decorative patterns of the wall surfaces. Mr. Rickards refers to the continual destruction of the Mexican temples, chiefly owing to the rapid growth of the trees which bury their roots in them. It is, however, encouraging to find that this is not always so rapid or complete as might have been expected, as a comparison will show of Mr. Rickards' photograph (p. 74) of the palace of Zayi with the admirable series of drawings made by F. Catherwood to accompany Mr. John F. Stephens' *Incidents of Travel in Yucatan* (vol. ii. p. 17). This drawing was made about 1840 and published in 1843, and the first and second stories of the palace seem to have undergone no change except the cutting down of two or three shrubs. In this work of Stephens there is a plan given of the

palace and an interesting description of its construction. The photographs published by Mr. Rickards are rather small in dimension, a defect which is remedied by the numerous examples of the same subject taken from different points of view; their great value, however, lies in the accuracy of the representations taken with the camera, and here it is interesting to note the difference between the illustration No. 1017, p. 592 of Fergusson's *History of Ancient and Mediæval Architecture* (3rd edition) and Mr. Rickards' photograph of the outside wall of the palace of Mitla (p. 91); the outward slope of the walls in the former is greatly exaggerated, but in the latter it will be seen that the projection of the upper part of the wall is corrected by the base and plinth, not shown in Fergusson. The decorative details shown in Mr. Rickards' photographs are remarkably clear and distinct, and we shall look forward with interest to the publication of the second volume, which will be of great value to anyone who ventures to take up the whole subject of the origin of the construction and decoration of these remarkable ruins.

R. Phené Spiers, F.S.A. [*F.*].

COUNTRY HOUSE BUILDING.

The Essentials of a Country House. By R. A. Briggs, F.R.I.B.A., Soane Medallist. 8o. *Lond.* 1911. *Price* 7*s.* 6*d. net.* [*B. T. Batsford*, 94 *High Holborn, W.C.*]

This is a book, intended for the general public, containing the author's ideas on Country House Building, illustrated by plans and views of his own works. Mr. Briggs knows his own mind and knows his public and speaks to it "ex cathedra," and it is significant that he finds it necessary to issue a solemn warning against graining, as to which, it seems, he agrees with Ruskin. On the practical side, a good many of us would take exception to the dictum "The larder should be entered directly from the scullery," though the author—to judge from his plans—must have had a large experience of this arrangement. The book is excellently printed and the illustrations well reproduced.

Charles E. Sayer [*A.*].

Books Received.

Shearer's Historical Guide to Stirling, Stirling Castle, and Neighbourhood. 8o. Stirling, 1911. Price 1*s.* net. R. S. Shearer & Son, Stirling.

Building in London: a Treatise on the Law and Practice affecting the Erection and Maintenance of Buildings in the Metropolis. By Horace Cubitt, A.R.I.B.A. With Special Chapters by H. J. Leaning, F.S.I., and Sydney A. Smith, F.S.I. La. 8o. Lond. 1911. 31*s.* 6*d.* net. Constable & Co., Ltd., 10 Orange Street, Leicester Square, W.C.

Metropolitan Committee on Materials and Means of Paving the Streets of London: Eighth Annual Report and Tabulated Statement. Fo. Lond. 1911. Harrison & Sons, St. Martin's Lane.

Calculation of Columns: a Practical Application of the Theory. By Theodor Nielsen. 8o. Lond. 1911. Price 4*s.* 6*d.* net. E. & F. N. Spon, Ltd., 57 Haymarket.

9 Conduit Street, London, W., 26*th Aug.* 1911.

CHRONICLE.

Sessional Meetings 1911–12.

The following are the dates and arrangements for the General Meetings of the Institute next Session:—

Nov. 6.—President's Opening Address.

Nov. 20.—Collegiate Architecture. By Edward P. Warren, F.S.A. [*F.*].

Dec. 4.—Business Meeting.

Dec. 18.—The Newer Responsibilities of Architects. By the Practice Standing Committee.

Jan. 8, 1912.—Business Meeting.

Jan. 22.—Colour Decoration. By Sir Alfred East, A.R.A. [*H.A.*] and Edgar Wood. Award of Prizes and Studentships.

Feb. 5.—President's Address to Students. Presentation of Prizes.

Feb. 19.—Modern French Sculpture. By H. Heathcote Statham [*F.*].

Mar. 4.—Business Meeting: Election of Royal Gold Medallist.

Mar. 18.—The French Renaissance. By W. H. Ward, M.A. Cantab. [*A.*].

Apr. 1.—Modern Methods of Construction. By Wm. Dunn [*F.*].

Apr. 22.—The Royal Institute Library and some of its Contents. By C. Harrison Townsend [*F.*].

May 6.—Annual General Meeting.

May 20.—Recent University Architecture in the United States. By R. A. Cram.

June 10.—Business Meeting.

June 24.—Presentation of the Royal Gold Medal.

Ninth International Congress of Architects, Rome, 2–10 Oct. 1911.

Mr. John W. Simpson, *Vice-President R.I.B.A.*, who is Secretary of the British Section of the Comité Permanent International des Architectes, has issued a circular giving further particulars of the forthcoming Congress at Rome, together with an Itinerary of the route and full details of the arrangements which have been made for English members to travel together on the outward journey, and of the accommodation and other conveniences provided for them *en route* and during their sojourn at Rome.

The subscription for Full Members is £1, and for Associates, being members of the family (wives, sons or daughters) of a Member, 12*s.*

Both Members and Associates have the privilege of admission to

A Reception to be given by the International Association of Artists.

A Reception at the Capitol.

A Picnic (*ottobrata*).

A Garden Party, and probably to other important Receptions.

They will be shown round Rome and the Exhibitions under qualified guidance. Excursions to the environs (including lunch) will be arranged at a small payment.

There will be special Banquets and a lunch for official Delegates and their wives; also the usual closing Banquet for which tickets can be obtained by payment.

Tickets of admission to the Museums will be distributed.

Arrangements are now completed for a party of Members and Associates to travel to Rome, leaving London on 29th September. The Itinerary is as follows:

Friday, September 29.—Leave London (Charing Cross Station), 9 a.m., by the short sea route Dover and Calais for Paris, continuing by evening express for Genoa.

Saturday, September 30.—Arrive Genoa, where the night will be spent.

Sunday, October 1.—Leave Genoa by morning express for Rome, arriving the same evening.

Monday, October 2, to *Wednesday, October* 11.—In Rome. Members will be able to return to London at their own leisure, within the validity of the tickets, *i.e.* 25 days.

FARES, HOTEL ARRANGEMENTS, &c.

A Fare: 14*l.* 14*s.*, providing:

1. Second-class travel ticket, with first-class on steamer from London, *via* Calais, Paris, and Modane to Rome and back.
2. Comfortable hotel accommodation, consisting of meat breakfast, dinner, bedroom, lights and service, from dinner on September 29 until breakfast on October 11. Meals *en route* between London and Rome on the outward journey will be provided.
3. Omnibus transfers between station and hotel on arrival and departure at Genoa and Rome.
4. Fees to hotel servants, railway porters, and the drivers of the conveyances utilised from London until breakfast in Rome on October 11.
5. Free conveyance of 56 lb. of baggage (while travelling with the courier).
6. The services of a qualified courier, who will generally supervise the arrangements until the morning of October 11, when he will return direct to London.

The courier will return on the morning of October 11, and any Members desiring to return at the same time will have the benefit of his services during the journey, and of free conveyance of baggage as above; but meals, hotel accommodation, fees, or transfers on the return journey are not included in the fare. The tickets would be available for 25 days, and all the Members would have to travel together on the outward journey to Rome.

B As **A**, but with hotel accommodation at the Hôtel Continental or similar establishment in Rome: fare, 16*l.* 16*s.* per passenger.

C As **A**, but with accommodation at the Grand or similar hotel: Fare, 17*l.* 17*s.* per passenger.

D FIRST-CLASS TRAVEL.—The supplement for first-class travel throughout is 3*l.* 5*s.* per passenger.

INDEPENDENT TICKETS.—The charge for independent tickets by the above route will be: for railway and boat only, London (Charing Cross) to Rome and back (all baggage is charged for on the Italian railways).

E Second class and saloon, 10*l.* 10*s.* 7*d.*

F First class throughout, 14*l.* 14*s.* 2*d.*

The independent travel tickets would be available for 60 days.

Members proposing to join the Congress are particularly requested to COMMUNICATE AT ONCE with Mr. Simpson at 3 Verulam Buildings, Gray's Inn, and state whether they desire to travel with the party as arranged, and under which of the conditions set out above against the letters **A**, **B**, **C**, **D**, **E**, **F**, so that the necessary arrangements may be made.

Since the issue of the circular above mentioned, the official Programme has been published, and copies may be obtained on application to Mr. Simpson. The time-table of the various meetings, visits, receptions, and other functions is as follows:

Monday, 2nd October.

9 a.m.-12—Meeting of the Permanent Committee and of the General Committee of Organisation for the appointment of the President and Council and for preparation of programme of the work of the Congress.

2 p.m.—Visit of all members of the Congress to the tombs of the Kings of Italy and to that of Raphael in the Pantheon.

4-7 p.m.—Visit to the monument to Victor Emmanuel II.

7.30 p.m.—Dinner given by the Committee of Organisation to the Delegates of Foreign Governments and to the members of the Permanent Committee.

10 p.m.—Reception by the Associations of the Artists of Rome, by arrangement with the Committee of Organisation, of all members of the Congress in the rooms of the Associazione Artistica Internazionale.

Tuesday, 3rd October.

10 a.m.—Meeting of the reporters of the various subjects at Castle of St. Angelo 9-12. Visits to monuments and exhibitions.

12.30 p.m.—Luncheon given by the Committee of Organisation to the Delegates of Foreign and National Associations.

3-5 p.m.—Inaugural session at the Capitol in the hall of the Horatii and Curiatii.

10 p.m.—Reception by the Syndic in the Capitol.

Wednesday, 4th October.

9 a.m.-12—First meeting of the Congress at Castle of St. Angelo for the discussion of special subjects.

12.30 p.m.—Free for private invitations.

2-7 p.m.—Visits to Monuments and Exhibitions.

Thursday, 5th October.

9-11 a.m.—Second General Meeting of the Congress : Discussion.
11 a.m.-12—Lecture by Professor Carrado Ricci : Director of Antiquities and Fine Arts, on "The Imperial Fora."
2 p.m.—Visits to Monuments and Exhibitions.
5-8 p.m.—Garden party given in honour of Congress.

Friday, 6th October.

Excursions in the neighbourhood at pleasure. (See prospectus.) Evening free for receptions by Foreign Embassies to the architects of their respective countries.

Saturday, 7th October.

9-11 a.m.—Third General Meeting of Congress. Discussion and lecture by Professor Stübben on "The Laying-out of Towns."
2-7 p.m.—Visit to Monuments and Exhibitions.
10 p.m.—Reception given in honour of Congress.

Sunday, 8th October.

Picnic (*Ottobrata*). Lunch given by the Committee of Organisation to all the members of the Congress.
4-9 p.m.—Reception by the Minister of Public Instruction in the Casino of the Villa Borghese.

Monday, 9th October.

9 a.m.-12.—Fourth General Meeting of the Congress : Discussion and lectures.
2-7 p.m.—Visit to Monuments and Exhibitions.

Tuesday, 10th October.

9 a.m.-12—Closing Meeting of the Congress.
2-7 p.m.—Visit to Monuments and Exhibitions.
8 p.m.—Farewell banquet (by payment of 20 francs).

Wednesday and Thursday, 11th and 12th October.

Excursions at pleasure in the neighbourhood. (See prospectus.)
Excursion to Venice.—Train leaves Rome on the evening of the 12th.

Friday, 13th October.

2 p.m.—Meeting of the Congress at the Doge's Palace. Visit to the Campanile of San Marco.

Saturday, 14th October.

Excursion to the Venetian Estuary, by invitation of the Town Council of Venice.

Sunday, 15th October.

Visit to Monuments.

As regards the entertainments, information will be given at the beginning of the Congress.
Invitations are not transferable, and members of the Congress are therefore requested to see that they receive cards of invitation with those of membership (*tessere*).

Excursions to places of interest in the neighbourhood of Rome have been arranged as follows :—

I.—Ostia
(25 to 100 persons).

Cost for each person, per motor char-à-banc (38 seats), 14.50 lire; per motor (de luxe), 21 lire. Departure from Rome (Piazza Santi Apostoli) by motor about 8.30 a.m. Visit to the ancient city and latest excavations, proceeding then to the sea-shore, where lunch will be served at 12.30. Return at 3 p.m. to Ostia. Visit to the castle and museum. Arrival in Rome about 6 p.m.

II.—Subiaco
(25 to 80 persons).

Cost for each person, 18 lire. Departure from Rome (terminus) at 7.40 a.m. Visit to electric-power station. Lunch at 12.30. At 2 p.m. by carriage to the bridge of St. Mauro. Visit to the monasteries of Santa Scolastica and of the Speco and to the ruins of the Villa of Nero. Arrival in Rome about 8.27 p.m. Note : The above price does not include that of mules or donkeys (only about 25 obtainable) for the ascent from the bridge to the monasteries, etc. (about half an hour).

III.—Orvieto
(25 to 50 persons).

Cost for each person, 26 lire. Leave Rome (terminus) 9 a.m. Funicular and omnibus from Orvieto Station to the city. Visit to the Cathedral. Lunch at 12.30. Visits to the churches of S. Domenico and S. Andrea, the palace of the Popes and that of the Captain of the People, the well of St. Patrick, the Civic Museum, Etruscan tombs, etc. Arrival in Rome, 6.50 p.m.

IV.—Tivoli and Villa of Hadrian
(25 to 150 persons).

Cost for each person, 14 lire. Leave Rome (steam-tram at Porta San Lorenzo) at 8 a.m. Arrive at Villa Adriana station at 9 a.m.; walk to the Villa in 15 minutes. Arrival, by tram, at Tivoli about 11.30 a.m. Lunch at noon. Then visit by carriage to the Cascades. At Tivoli, visits to mediæval churches and to Villa d'Este. Arrival in Rome at 7 p.m.

V.—Anagni and Ferentino
(25 to 50 persons).

Cost for each person, 24 lire. Leave Rome (terminus) 7.55 a.m. Omnibus from Anagni station to the city. Visit to Cathedral and other mediæval buildings, Cyclopean walls, etc. Lunch at noon. Departure by carriage for Ferentino at 1 p.m. Visit to Cyclopean walls and Roman gates; visit to Cathedral, Church of Santa Maria Maggiore and all other mediæval ecclesiastical buildings. Return to Anagni by carriage. (Return perhaps by train direct to Rome, arriving 8.15 p.m.)

VI.—Corneto
(25 to 50 persons).

Cost for each person, 23 lire. Leave Rome (terminus) 8.45 a.m. Omnibus from the station to the town. Lunch at noon. Visit 2 p.m. to Civic Museum, Palazzo Vitelleschi, Cosmatesque Church of S. Maria di Castello, Etruscan tombs, etc. Arrival in Rome 9.50 p.m.

VII.—Castelli Romani
(25 to 80 persons).

Cost for each person, 15 lire. Leave Rome (terminus) 9 a.m. Frascati. Visits to Villas Aldobrandini, Conti, Mondragone, etc. To Rocca di Papa by carriage. Lunch at 12.30. At 1.30 p.m. by carriage through Ariccia to Genzano. View of the Lake of Nemi from Villa Cesarini; proceeding by carriage to Albano. Castel Gandolfo (view of Lake Albano), Marino to Grottaferrata. Visit to the Abbey. To Frascati by carriage. Train to Rome, arriving 7 p.m.

VIII.—Viterbo
(25 to 200 persons).

Cost for each person, 21 lire. Leave Rome (New Trastevere station) 7.35 a.m. Carriage from Viterbo station (P.R.) to city. Visit to Communal Palace, Civic Museum, Cathedral, Palace of the Popes, mediæval churches of S. Sisto, S. Giovanni in Zoccoli, della Verità, to S. Pellegrino, cloisters, etc. Lunch at noon. At 2 p.m. visit to 14th century church S. Maria della Quercia, villa Lante, at Bagnaia. By train to Rome, arriving 8 p.m.

IX.—Cori, Fossanova, Ninfa
(25 to 50 persons).

Approximate cost for each person, 22 lire. This excursion will be made by motor, leaving Rome at 6 a.m. and returning about 8 p.m. Cori: Visit to the Cyclopean walls, the Temples of Hercules, and of Castor and Pollux, the Ponte della Catena, the Cloister of S. Oliva, etc. Fossanova: Arrive about noon (lunch), visit the Abbey. Ninfa: Visit to the mediæval city and to the Castle of the Caetani. Return by Cisterna and Velletri, where a short stay will be made.

I. All the above excursions will be under the management of the well-known Company Chiari and Sommariva, of Milan, who will be directly responsible.

II. Members of the Congress are earnestly requested to send to the Committee the amount to be paid for the excursion they wish to join, not later than the 15th September, at the same time stating with clearness and precision *the name and the day* of the excursion selected.

Applications sent later will not be rejected if there are still places to be disposed of.

III. The sum paid will only be returned should the Committee be unable to carry out the excursion in question.*

Particulars of the subjects for discussion at the Congress will be found in the Journal for 17th June, p. 560.

The following delegates from Great Britain have already been appointed to the Congress :—

Sir Henry Tanner, C.B., I.S.O. [*F.*], Principal Architect to H.M. Office of Works, representing the Government.

Mr. W. E. Riley, R.B.A., M.Inst. C.E. [*F.*], Superintending Architect of Metropolitan Buildings, representing the London County Council.

Mr. James Jerman [*F.*], representing the Devon and Exeter Architectural Society.

Mr. Arnold Thornely [*F.*], representing the Liverpool Architectural Society.

Mr. W. Fleming Wilkie [*F.*], representing the Dundee Institute of Architects.

Mr. Edwin O. Sachs, F.R.S.E., A.Inst. C.E., representing the British Fire Prevention Committee.

* The same Company (official agents for the State Railways) with offices in Rome at the Piazza Venezia and in the Castle of St. Angelo will, at the request of members of the Congress, besides the excursions arranged by the Committee of the Congress, undertake to organise the following :

1st Rome-Naples-Pompei-Sorrento-Capri.

2nd Rome-Naples and the neighbourhood.

3rd Rome-Florence-Venice, Lake Garda, Milan and the Lombard lakes.

4th Rome-Pisa-Genoa-Turin.

The duration, the itinerary, and the cost of these will be arranged in due time.

Architecture and Copyright.

The clause in the Copyright Bill which creates copyright in architecture was the subject of an interesting debate in the House of Commons on the 28th ult., when Mr. Joynson-Hicks moved an amendment that "the construction of an architectural work of art" be omitted from the operation of the Copyright laws. The following is extracted from *The Times* report of the 29th ult. :

Mr. Joynson-Hicks (Middlesex, Brentford) said there had never previously been an attempt in any country to copyright architecture, but this proposal was being made as the result of the Berlin Conference. The House should not consider itself bound by that conference, for it was a conference of copyright experts, and ordinary public opinion was not represented adequately. He submitted that in the interests of architectural art it was undesirable that it should be the subject of copyright. All the great buildings of the world were expressions of the increase in artistic and architectural art, and since the time of the Pyramids there had hardly ever been a really new architectural group; each one had grown out of its predecessors. If they were going to stereotype a particular form of building they were going to prevent the growth of architectural merit. An architect was in a different position from an author or a musician, for he received his payment from the man for whom he worked and did not depend on copyright for his remuneration. Under the ordinary law all that had to be decided was whether a work was original and whether a copyright had been infringed, but now it was proposed to go further and say that a piece of work must not only be original but must also be artistic. Who was to decide whether it was artistic? Was a Chancery Judge to be called in to decide? He maintained that it would be impossible for any judge or jury to decide such a question. Mr. Justice Scrutton and he had joined in a minority report, and he quoted the view of the first-named against the inclusion of architecture in the Bill. He also referred to the correspondence in *The Times*, and read a letter which had been addressed to him personally by Professor Beresford Pite stating that the ideal aimed at was impossible of attainment, and as useless as it was impossible. Finally he appealed to the Government to allow the House to vote freely on this subject.

Mr. Dundas White, in seconding the amendment, described the inclusion of architecture as one of the most serious blots on the Bill.

The Solicitor-General said that the Government did not propose to take any steps to prevent hon. members from recording their view with the greatest freedom in the lobby. But first of all they should realise the strength of the argument for including architecture within the terms of the Bill. In the course of a recent investigation conclusions had been arrived at by a body which had devoted itself to the hearing of evidence and to considering the subject from various points of view. A Convention had been signed at the Berlin Conference, where the discussion was International in its character. The inclusion of architecture was recommended and covenanted for in that Convention; and if the House did not include architecture in the Bill they would be deliberately refusing to embody a provision which our representatives in negotiating with the representatives of other Powers had come to the conclusion ought to be inserted. After the Berne Convention had been signed a Departmental Committee of sixteen mem-

bers was appointed to consider whether our copyright law ought to include architecture. Out of sixteen members fourteen came to the conclusion, not hastily formed, that it was desirable to include architecture within the scope of the Bill. In this matter they were not acting without experience from other parts of the world. The modern school of German architecture was an admirable school, and yet they had this law in Germany. In France also they had this law, and since the Convention it had been adopted by two other countries. He asked the House to remember that this matter had been thoroughly discussed by the Committee, who had embodied their conclusions. The hon. member said that not only was the architectural work to be original but also artistic, but did he think that that was a special regulation in the interests of architects? The requirement applied equally in other directions. The test of artistic merit would have to be applied by the Courts whether they included architecture or not. He quite agreed that it was not an easy thing in every case to say whether a given piece of architecture was artistic, but that was a difficulty inherent in the law of copyright. It was against the law of this country at this moment, and would continue to be so even under this Bill, for a man to use the plans of an architect to put up a building either exactly like or colourably resembling the architect's design, or to copy those plans, or to make any unconscionable use of them. How odd would it appear that it should not be against the law to take photographs of the four sides of the house, to go inside and note the details, and then to build a replica of it! Was that common sense? Unless the thing was too difficult to accomplish it was absurd to say that an artistic and original idea as expressed in a building, if it could be proved, was not a thing for which the architect was entitled to just as much protection as his plans of construction and directions to the builder. The difficulty of applying the law fell on the architect who considered that his rights had been wronged, and in his opinion the cases would be very rare in which an architect would be able effectually to use this provision. That, however, ought not to justify them in excluding a protection that would only operate in rare cases. If he thought that the result would be to increase the price of small houses, he would take a very different view of the matter. If they wanted to employ an architect of taste to design a small house they must pay him the fee that he was able to command in the market, and if they were not prepared to do that they must put up with the local builder. But if they could say to the architect that the law would protect his original design and that he would be able to reproduce it, that would tend to make the cost less. He said frankly that this was an experiment that might not produce any particular results at all, but as the burden of proof was invariably with the architect he could not see how it was going to damage the interests of builders and those who had not too much to spend on houses. It was not always realised that copyright was not the protection of ideas. They could not protect ideas, but the original and artistic form in which the ideas were expressed. Nothing that he was urging on the House in the least prevented a style of architecture, a mode of arrangement, or a new general view from being reproduced, as it ought to be, with the greatest ease, just as a new kind of poem or picture was constantly reproduced. It was designed to stop the rare but very gross case of palpable, obvious plagiarism, and a later clause in the Bill did not allow the full benefit to the architect, because, supposing a building had been started, they could not insist on its being pulled down, and to that extent they were dealing not with different subject-matter but with different material. He asked the House to consider the matter with care and candour, and submitted that they would be adopting the wiser course if they kept this provision in the Bill.

Mr. Barnes (Glasgow, Blackfriars) said that after the speech of the Solicitor-General he was more strongly inclined than he had been to vote for the amendment. In the event of architecture being included in the Bill the lawyer would gain a great deal more than the architect. The reference to authority did not appeal to him at all. We had been accustomed to do things in this country as we thought proper, and he was going to follow that good old rule. What did the authority amount to? Architecture had been a feature of the whole world's history, and the authority went back at the very best for only ten years. The very fact that the architect would have to prove his own case showed how little worth this part of the Bill was. He was inclined to think that if they adopted the Bill in its present form they would be conferring very little, if anything, of value on architects, but they would be doing something which would lead to litigation and endless expense. He hoped the House would adopt the advice of the hon. gentleman opposite.

Sir F. Banbury (City of London) declared that if this amendment were not carried they would require several new Judges to decide whether or not there was a genuine claim in every bow window, in every alteration, in every house. He thought this was legislation run mad. Surely they might be allowed, if they saw something they liked, to make use of it for their own purposes without having to obtain the consent of all sorts of Courts of law or to find out whether somebody claimed property in the idea?

Mr. T. P. O'Connor (Liverpool, Scotland) commenting on the speech of the hon. baronet the member for the City of London, said he found that those gentlemen with a high sense of the sacredness of the rights of property always drew the line at the sacredness of the right of property in ideas. Every kind of property was to be protected except the property which came from the man's own brain, which, in his opinion, had the Divine right of property more than any other form of production. He appealed to the House to stand by the decision of the Committee, and not to break away, as they were asked to do by the amendment, from the Convention and from the decision of all the civilised world, with, perhaps, the exception of the United States. He was jealous of the repute of this country in its dealing with questions of art and of literature. It had too long been a reproach to this country, and not without justice, that we paid less regard and respect to intelligence, culture, and art than did any other of the civilised countries of the world, and, in face of a law like this in Germany, in France, and in Belgium, we were asked to take the lower and more vulgar position of depriving the architect of protection of his ideas. That might recommend itself to the banker, to the dealer in Consols, but he did not think it ought to recommend itself to those who were jealous of the artistic reputation of this country. The painter and the author and the sculptor were protected, and yet we, alone of civilised countries, were asked to make the architect a pariah and deprive him of the right of protecting the creations of his brain.

Sir G. Marks (Cornwall, Launceston) said this matter was only carried by a narrow majority in the Grand Committee. There being no necessity under the Bill for a man to register his design, what would be the position if the Act passed without the amendment? It would be a trap for the unwary. A man might build a house and wish to embody some particular feature or design which he had seen somewhere. There was nothing on record to show that that feature was proprietary. The

owner of the design could come down upon him for damages for a thing which he could not have known to be illegal, because there was no way of finding out that it was not legal. They were going to pass a Bill that might create in connection with every house that might be erected hereafter as many offences as there were features of interest in it. These features of interest might all have emanated from different persons, each of whom might say, "That is my idea, and I will restrain you from it." And you could not find out that it was any one's idea until you had an injunction issued against you. That was an extraordinary way of legislating, and would cause a great deal of litigation.

Mr. MacKinder (Glasgow, Camlachie) thought a good deal of the opposition to the clause was due to exaggerated views about its consequences. It was difficult to be original in architecture at this time of day. A person proceeding under the section would have to prove first that the work was artistic in a technical sense; and secondly, that it was original; and in face of the difficulty of proving these things they would have no cases taken to the Law Courts unless they were cases of gross, wicked copying of the detailed work of an artist. The provision was not in the least likely to be resorted to excepting for preventing gross abuse. He wanted to see the great architect turning his brains not simply to great public buildings, but to houses for garden cities, and the best way of getting him to do so was to enable him to obtain royalties of small amount on each particular copy of his design, instead of compelling him to obtain the whole of his return from the erection of a single building. He thought they ought to retain the words in the Bill in the interest of art. Those who feared litigation were raising a bogey.

Mr. Pringle (Lanarkshire, N.W.) said it had never been the practice of the House to legislate on mere abstract principles or on grounds of analogy. There ought always to be a practical reason for legislation, and if anyone would examine the speeches that had been made they would see that no attempt had been made to make out a practical case for the proposal in the Bill. No case had been put forward that architects suffered or that any complaint had been made by a single member of the profession. There was, in his opinion, no ground for introducing restrictive legislation of this kind.

Sir W. Anson (Oxford University) said he did not know that either the acceptance or the rejection of the amendment would be of great advantage to the community at large. He did not suppose that an architect who built a cathedral or a great mansion would run any great risk of the infringement of copyright by anyone else, though there might be some risk of imitation of a particular feature in a house. What he thought influenced the Standing Committee was that in garden cities and in small houses architectural skill might be brought to bear if the architect knew he would get a royalty on the reproduction of his design. For that reason he should vote for the retention of the words.

Mr. Wedgwood said the Solicitor-General had argued that they must consider the Berne Convention, under which copyright was given in architecture; but he would point out that they were giving retro-activity in the protection of musical work, and therefore in that case the Government were willing to break the Convention with a light heart. It was argued that, if copyright in sculpture were protected, artistic architecture also should be protected; but if protection were given in regard to an artistic window, why should it not be given in respect of artistic furniture? The argument might be carried further, and it might be asked why, if artistic furniture were protected, should not protection be extended to the design of an artistic dress.

Sir G. Parker pointed out that the Bill provided that the main design of a work only should be copyright. A particular feature apart from its relation to the main design would not be copyright.

Mr. Wedgwood said that the decision of the question what was the main design would be an endless source of income to lawyers and trouble to other people. It would not be in the interests of architecture to encourage all manner of people to imagine that they had claims against an original architect, and to urge those claims just as many people, some of them mad, after the production of a play, wrote to the author asserting that he had "cribbed" some of their work. The inclusion of architecture within the ambit of copyright law would act to the injury of the architectural profession and to the enormous benefit of lawyers.

Mr. Essex (Stafford) asked whether no protection was to be given to a work of utility which was not a work of art. Was the decision of what was a work of art to be left, not to experts, but to a Judge and jury? Were the authors of the Bill prepared to submit that question to such arbitrament?

The Solicitor-General replied that the law of copyright, apart from the literary branch of the law, was concerned with things which were artistic in quality. The patent law dealt with things of utility.

On a division there voted: For the amendment, 42; against, 154. Majority, 112. The Bill has now passed through the Report stage.

The King Edward Memorial.

A small committee of Members of Parliament has been formed by Mr. Whitehouse, Captain Murray, and Mr. Noel Buxton for the purpose of pressing on the King Edward Memorial Committee the Hyde Park Corner scheme prepared by Professor S. D. Adshead [*F.*]. It is claimed on behalf of this scheme that it extends instead of diminishing the Park area, that it greatly improves the traffic intersection at a dangerous spot, that all the historic features of the site are retained, and that a fine position is secured for a statue of the late King without the sacrifice of a single tree. It is further urged that the scheme would be comparatively inexpensive and would leave sufficient funds for the provision of the Shadwell Riverside Park as an East-end Memorial. The *Builder* of the 4th August publishes Professor Adshead's drawing showing how the re-arrangement of the space in front of Hyde Park Corner could be effected, and gives the following details:—

Green Park would be extended out into Piccadilly, and the axiality and continuity of Piccadilly, as a great thoroughfare, would thereby be emphasised and improved. Grosvenor Place would be continued as a street of even width until it emerged with Constitution Hill and Grosvenor Gardens into the symmetrically disposed "place"—the *entre court* of London's two finest parks.

The narrowing of Grosvenor Place and its altered alignment would provide space for a garden where at present is merely a waste of asphalted pavement and woodblock. St. George's Hospital, which is shortly to be taken down, will no doubt be rebuilt as an hotel or block of high-class flats. The opportunity which

the occasion offers for an elevation suited to the character of the site ought not to be missed.

The King Edward Memorial might then worthily occupy a prominent position in the centre of the Piccadilly side of the new "place." It might take the form of a figure on a pedestal with minor groups on either side. The whole might be set on a semi-circular podium facing Piccadilly, and from behind might be a fall of water into a basin below, with symbolic sculpture at either side.

The statue of Wellington would need to be removed a few feet further toward the east, and the altered conditions would create a vacant site for a statue similar in design to the west.

By an arrangement of islands and street refuges, traffic going in different directions would cross at right angles, instead of obliquely in the present dangerous manner.

The trees which are dotted about without any particular method of plotting, and which merely obstruct the view in every direction, might be taken up and transplanted; some of them so as to form a background to and to accentuate the memorial, and others to outline the shape of the "place" and the proposed garden off Grosvenor Place.

Such an improvement could be made without any structural alteration to any existing building. Practically all that it would mean of alteration would be the relaying of a portion of the road surface, readjusting the Park railing, erecting new piers at the entrance to Grosvenor Place and Grosvenor Crescent, and altering the position of the Wellington equestrian statue.

L.C.C. Central School of Arts and Crafts: Appointment of Principal.

The London County Council at an early date will proceed to the appointment of a full-time Principal for the London County Council Central School of Arts and Crafts, Southampton Row, W.C., at an annual salary of £1,200.

In addition to high qualifications as a practical artist, administrative and organising ability is essential. The Principal must also be in touch with the industrial application of the work of the school.

Applications should be made on Form T. 1/17, which can be obtained from the Education Officer, L.C.C. Education Offices, Victoria Embankment, W.C., to whom they must be returned not later than 11 A.M., on 7th October 1911, accompanied by copies of three testimonials of recent date. Full particulars of the work of the School and the conditions of the appointment can be obtained on application to the Education Officer as above.

The National Portrait Gallery.

A Government Bill has received the Royal Assent which provides for the transfer from the War Office and vesting in the Office of Works some land that appertained to the St. George's Barracks, in order that it may be utilised for extensions of the National Portrait and the National Galleries. In the case of the former the Trustees, in their fifty-fourth annual report, which has just been issued, direct attention to their existing urgent requirements for further room, and to a considerable extent, inasmuch as the available wall space is so completely occupied that it is almost impossible to find proper place for new acquisitions. In addition to engravings, photographs, and similar supplementary reproductions, there are 1,605 registered portraits.

Teaching and Examination in Art: New Government Scheme.

The Board of Education have constituted for a term of three years, from the 1st September next, a Standing Committee of Advice for Education in Art. Among members already appointed are Mr. E. K. Chambers, Chairman; Sir E. J. Poynter, P.R.A., Sir C. Holroyd, Sir Cecil Smith, Professor Reginald Blomfield, A.R.A., Mr. G. Clausen, R.A., Mr. A. S. Cope, R.A., Professor Selwyn Image, Mr. S. J. Cartlidge, and Mr. Solomon J. Solomon, R.A. In 1913 will be brought into force a comprehensive scheme of examinations to take the place of the current elementary examinations for art-class teachers' and art-masters' certificates, as well as of the minute subdivision of art studies, the Board being of opinion that such stimulus and control as may be properly applied to the teaching of art by a central authority can be exercised best in visits of inspection, and that the teachers of the schools rather than external examiners should be charged with the duty of applying tests by examination. The Board will invite experienced headmasters of schools of art and others to consult with them for the establishment of a reformed course of national competition.

The London Museum.

The London County Council has, on the recommendation of the Local Government Records and Museums Committee, resolved that the whole of the objects of London interest collected by the Council from time to time, including the boat of the Roman period discovered on the site of the new County Hall, be offered on permanent loan to the Trustees of the London Museum. The museum is to be accommodated in the State apartments of Kensington Palace, which was placed by the King at the disposal of trustees for the exhibition of the collections. It is understood that the accommodation at Kensington Palace will be of a temporary nature, as it is intended eventually to house the objects in a building worthy of London. A large and valuable collection has been made by the Council from time to time, and a selection is exhibited at the Shepherd's-bush Exhibition. Of the remaining objects some are stored on the site of the new County Hall and at the Horniman Museum. All these might appropriately find a place in the London Museum.

Newly Registered Students.

GIBBS: Harry Beckett Swift; 7 Riverdale Road, Sheffield—having passed through the four years' course of the School of Architecture at Sheffield University, was exempted from the Intermediate Examination.

MÜLLERHAUSEN: Walter Ernest; 25 Tylney Road, Forest Gate, E.—passed the Intermediate Examination held in London in June last.

The Statutory Examinations.

The Statutory Examinations held by the Institute under Section 140 of the London Building Act, 1894, will for the future be held in the last week of October. The next Examination will take place on the 26th and 27th October next.

Hittite Research Fund.

An appeal has been authorised by the Hittite Excavations Committee for funds to promote archæological research in Asia Minor and Northern Syria with the object of investigating the remains of the Hittite power and civilisation. The Committee, which includes Mr. R. Brocklebank, Sir John Brunner, the Rev. W. Macgregor, Mr. Robert Mond, Mr. C. G. Montefiore, Major E. Rhodes, Sir Edwin Pears (Constantinople), Professor A. H. Sayce, Mr. James Smith, Mr. Henry S. Wellcome, and Dr. Valdemar Schmidt (Copenhagen), hopes to raise £2,000 a year for the work, as well as a further £500 for immediate purposes. The hon. treasurer of the fund is Mr. Robert Mond, Coombe Bank, Sevenoaks, and the bankers Lloyds Bank, Regent Street Branch, W.

The Committee points out that past research has already been made with remarkable results, especially at Boghaz Keui, the seat of the great Hittite kings in the fourteenth and thirteenth centuries B.C. Their State archives, written upon tablets of clay, have been unearthed in the ruins of the Royal Palace. Hundreds of these documents are still unread, being expressed in the unknown Hittite language, but much may be learned from some that relate to foreign affairs, as they are written in the common Assyrian language and script. A knowledge of the civilisation of Asia Minor under the Hittites is essential to the interpretation of the results of recent research alike in Crete and the Ægean, as in Palestine and even Egypt.

It is proposed that an expedition shall begin work this autumn in the great mound at Sakje Geuzi. The committee has entrusted the conduct of the excavation to Professor J. Garstang. He has already begun excavation at Sakje Geuzi, and by the discovery of a palace with sculptured portico has demonstrated the promise of the site. The site itself, four days' journey eastward from Adana, near Tarsus, and one day westward from Aintab, was on an ancient route between the east and west by way of Carchemish and the Cilician Gates. Apart from the direct information which may be confidently expected, it is a likely place to search for that bilingual inscription which would solve the riddle of innumerable documents.

"The African Architect."

A monthly journal devoted to the interests of the architectural profession in South Africa has been started under the auspices of the Association of Transvaal Architects. The new venture is published in Johannesburg under the title "The African Architect," and its policy, as set forth in the editor's introductory article, is "to strive consistently for the betterment of the profession, and for its advancement in intellectual and artistic attainments." Well produced typographically and printed on good paper, it is an attractive-looking publication, and the quality of the articles in the first two numbers is highly creditable to the editor and his contributors. Among the latter are two members of the Institute—Mr. Herbert Baker [*F.*], who answers very convincingly a plea for English Gothic for the architectural needs of South Africa; and Mr. Arthur H. Reid [*F.*], President of the Cape Institute, who contributes an interesting retrospect of the profession in South Africa. Particulars are given of the very comprehensive courses in architecture which, through the exertions of the Association of Transvaal Architects, have now been established at the South African School of Mines and Technology. The period of training extends over four years, and the curriculum embraces Building Construction and Drawing, Strength of Materials and Theory of Structures, Architectural History and Theory, Architectural Drawing and Design, Practice of Architecture, Sanitation, Modelling, and Applied Arts and Crafts. In the July number is printed the full text of the proposed Architects' Registration Bill for the Union of South Africa, a measure which is being promoted by the Association of Transvaal Architects.

Obituary.

Mr. EDWIN AUSTIN ABBEY, R.A., LL.D., F.S.A., the eminent decorative painter, who died on the 1st August, was elected an Honorary Associate of the Institute in 1905. Born at Philadelphia in 1852, at about the age of sixteen he was placed for a time with a landscape painter, and afterwards studied in the classes of the Pennsylvania Academy. At the age of nineteen he entered the office of Messrs. Harper Brothers, of New York, as a draughtsman, remaining with them for about six years and turning out a great variety of illustrations covering all kinds of subjects. In 1878 he was engaged by Messrs. Harper to come to England to study the necessary details for an elaborate series of illustrations to Herrick's poems. He stayed in England nearly two years, returned to the United States for a few months, and in 1881 came again to England and settled, though he never became a naturalised Englishman. By the

year 1882 Mr. Abbey had made a reputation on both sides of the Atlantic for his black-and-white work and for his exquisite water-colours, and later an equally great reputation for his work in oils. The most important class of works, however, with which his name is associated are the large decorative paintings which he has executed for great public buildings. England possesses only one of these—that of the Royal Exchange series, which represents the "Treaty of the Loving Cup" between the Merchant Taylors' and the Skinners' Companies. The more important have been done for Boston and for Philadelphia. Mr. Abbey, with Mr. Sargent and M. Puvis de Chavannes, received commissions to carry out the fine scheme of decoration for the late Mr. McKim's Public Library at Boston. Another commission, which occupied the last ten years of his life, was the great series of decorative paintings for the State Capitol of Pennsylvania. In 1908 he was appointed to superintend the filling-in with paintings six panels of the corridor that leads to the grand staircase in the Houses of Parliament. Mr. Abbey was elected A.R.A. in 1896, and R.A. two years later; he was a Chevalier of the Legion of Honour and Member of the Institute of France.

Mr. William Henry Hill, B.E., of Cork, *Fellow*, elected 1888, died on the 28th July at the age of seventy-three. He was the son of Mr. William Hill, architect, of Cork, and was born in 1837. He served his pupilage with his uncle, Mr. Henry Hill, and took his degree of B.E. in the Queen's University about 1859. His first position was that of draughtsman in the Architectural Department of H.M. Board of Public Works, Ireland, where he remained for eighteen months. He was then appointed Diocesan Architect for the Dioceses of Down, Connor, and Dromore in the north of Ireland, under the Ecclesiastical Commissioners, and was subsequently promoted to a similar position for the larger district in the south of Ireland with Cork as his headquarters (a position now held by his eldest son, Mr. W. H. Hill, under the Representative Body of the Church of Ireland). In 1869, the Church of Ireland having been disestablished, Mr. Hill's ecclesiastical appointment terminated, and he started in private practice in Cork. His career has been a highly successful one. Possessed of great taste and refinement, some of the best examples of church and other buildings in the south of Ireland are the result of his skill. He held many important professional appointments, including that of Consulting Architect to the Cork Lunatic Asylum Board, which he filled for nearly forty years. In 1891, the Cork Courts of Justice having been destroyed by fire, competitive designs for a new building were invited from all architects in the Kingdom. Mr. Hill's design secured the first premium, and he was commissioned to carry out the new building, which is now one of the many monuments to his memory.

CORRESPONDENCE.

The Wrens in Pepys' Diary.

To the Editor, Journal R.I.B.A.

Sir,—I think the doubts of Mr. Percy L. Marks about the references to the Wrens in Pepys' Diary may be easily resolved. May I, as a member of the Pepys Club, refer him to Mr. Wheatley's edition of the Diary (1905, 8 vols., or the earlier issue in 10 vols.), the index of which will clear up some of his difficulties? Mr. Marks probably reads Lord Braybrooke's mutilated text which ought to be hastened into the dustbin. The Braybrooke index is responsible for much confusion. "Matt. Wren," "Wren" and "Mr. Wren" were the same person, and Pepys' colleague after 1667. May was Hugh May, an architect who did work at Windsor Castle. The "Transactions" are those of the Royal Society, the only society of that day that published Transactions. The perspective instrument is referred to in the ordinary printed *Parentalia*, so I did not mention it in my paper. There is throughout The Diary (to Pepysians there is but one deserving to be called The) a vast amount of information relating to architecture and building practice in Charles the Second's reign. I have been collecting material for a paper on "Pepys as an Amateur Architect," but it has had to be put aside for other things. On February 8, 1661/2 he is so pleased with his new coal cellar that he must "pray God keep me from setting my mind too much upon it." The next year, having the Duke's leave to raise the roof, "I went home merry"; but not long after, "my house being so much out of order makes me a little pettish." By September his neighbour is angry about ancient lights and blocking up the "house of office" . . . "which did trouble me." And so on, for entry upon entry. Pepys must have been a pleasant client. Witness this: "At home I find Symson putting up my new chimney piece, in our great chamber, which is very fine, but will cost a great deal of money, *but it is not flung away.*"

Yours truly,

Lawrence Weaver, F.S.A. [*H.A.*].

Professor Beresford Pite [*F.*] has been appointed Director of Education in the Architectural Association school. He will have under his care especially the third and fourth year students in the evening school, while Mr. H. P. G. Maule [*F.*], will continue to act as headmaster of the day school. Mr. Maule, assisted by Mr. C. E. Varndell [*A.*], will co-operate with Professor Pite in the general direction of the work of the school.

Mr. John W. Simpson, *Vice-President R.I.B.A.*, has received from the French Ambassador the brevet of Officier de l'Instruction Publique, which has been awarded to him by the Minister of Public Instruction and Fine Arts for services rendered to French art.

Mount Juktas, from Candia.

MINOAN LIME-PLASTER AND FRESCO PAINTING.

By Noel Heaton, B.Sc., F.C.S.

THE discoveries of painted plaster at Mycenæ have for many years drawn attention to the fact that the technique of painting on plaster employed in Roman and mediæval times was based on a tradition derived from remote antiquity, but it was not until the excavations in Crete, instigated and largely controlled by Sir Arthur Evans, resulted in the discovery of the Minoan civilisation, extending back almost to Neolithic times, that sufficient evidence became available to enable one to formulate any hypothesis as to the origin and course of development of this art.*

Last year, under the direction of Sir Arthur Evans, I made a careful examination of the most important sites, and followed up the evidence thus gleaned, by a detailed and exhaustive study of numerous fragments which I collected for the purpose, and of which I have preserved full data as to place and age.

Putting together the evidence thus obtained, the conclusion that one arrives at, expressed in general terms, is that the now well-known decorative paintings of the Palace of Knossos and elsewhere were executed in a manner closely akin to the buon fresco of the Italians, and that they represent the culmination of a long-continued development of the use of lime plaster; moreover, it is evident that the use of this material as the basis of a decorative process by the Minoans was subsequent to and derived from its development as a means of protection to their buildings from the weather.

The first crude beginnings of the use of lime plaster may be traced back in this district almost to Neolithic times, but it is practically impossible to form an idea as to the date of its first employment, owing to the confusion caused by the disturbance of early buildings by later work on the same site. But by the middle of the Early Minoan period we have ample evidence that lime plaster, of a comparatively crude type, was employed as a protective coating to the rubble masonry of which the buildings were constructed. At Knossos, very little work of this date remains; it was mostly cleared away in the construction of the first great palace in the Middle Minoan period. But I have found here and there fragments remaining on the walls of the earlier buildings, the foundations of which still exist outside the area covered by the

* In addition to the great Palace of Knossos, near Candia, excavated by Sir Arthur Evans, 1900-1910, many other sites have been examined in different parts of the island during the past ten years; the most important of these are the Palaces of Phæstos and Hagia Triadha, near the south coast, excavated by the Italian Mission; the ritual cave in Mount Dicte, excavated by Dr. Hogarth; the Early Minoan settlements at Vasiliki, the Late Minoan town at Gournia, the Late Minoan seaport at Palaikastro, and other sites to the east of the island.

main palace, and large quantities of small fragments are found broken up and used as rubble, embedded in the walls of the later buildings, and more particularly rammed into the floors.

At Vasiliki, however, several buildings of the Early Minoan period remain undisturbed by later alterations, and are preserved in excellent condition. Here abundant remains of plaster are found which may be taken as typical of the period.

Fig. 1 shows a section cut through a representative specimen of this plaster from Vasiliki. It will be seen that the plaster is over 5 cm. in thickness and that it was evidently put on in two coats, for there is a well-marked line of cleavage about 15 mm. from the surface—it is dirty yellow in colour and very hard and tenacious, affording an excellent protective finish to the friable sun-dried brick or loose rubble of which the buildings were constructed.

The composition of this plaster, considering its hardness, tenacity, and freedom from cracks, is rather remarkable. It contains only about 40 per cent. of carbonate of lime, the remainder being mainly silica and alumina;* it is difficult to reconstruct the exact mixture used in its preparation, but the large proportion of alumina and the fact that the silica contained (to the extent of nearly 40 per cent.) is not in the nature of sand, but is in a state of combination, points to the fact that the plaster was prepared by mixing lime with a clay of the type known to mineralogists as zeolite (consisting of hydrous aluminium silicate), the hardness being due not so much to the carbonation of the lime as to the subsequent combination between the two materials with the formation of silicates of lime and alumina.

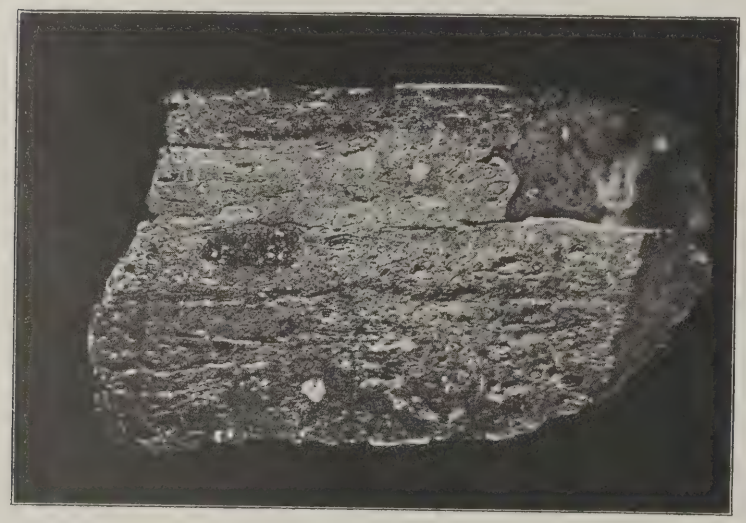


FIG. 1.—SECTION OF EARLY MINOAN PLASTER FROM VASILIKI.
(Exact size of original.)

The plaster was further strengthened by the addition of an aggregate consisting of small pebbles, fragments of pottery, &c., and a considerable proportion of chopped straw was also added, which was destroyed by the caustic lime, leaving well-defined cavities by which its presence can be identified, and in some cases even casts in carbonate of lime. This type of plaster is quite characteristic of the Early Minoan period, and although detailed examination of many of the fragments from Knossos, referred to above, in no case yields *absolutely* parallel results, the agreement is sufficiently close to warrant the assertion that a plaster of quite similar type was utilised there in the Early Minoan period.

As we pass from the Early to the Middle Minoan period the character of the plaster changes, more and more lime being used. Examination of a number of typical specimens

* For purposes of reference I give the complete analysis of the typical specimen illustrated:—

Soluble in hydrochloric acid (61·57 per cent.)	Calcium oxide (lime)	24·90
	Magnesium oxide	2·24
	Carbon dioxide	16·80
	Iron and alumina	17·23
	Sulphuric anhydride	0·37
	Soluble silica	0·03
Insoluble in hydrochloric acid (38·43 per cent.)	Insoluble silica	37·29
	Alumina, etc.	1·14

from the earlier palace of Knossos shows that the normal plaster used at this period was much lighter in colour, and, whilst firm and sound, is not so hard or tenacious—it is far more characteristic of ordinary lime plaster in fact. It consists on the average of 70 per cent. of carbonate of lime, the remainder being mainly clay with an admixture of fine pebbles and grit. The composition varies in different parts and the plaster is often traversed by streaks of varying colour indicating that the materials were not very well mixed—straw has disappeared from the mixture, and the plaster is altogether closer in texture.

This tendency to increase the content of lime becomes more and more pronounced as we pass through the Middle Minoan period, and the plaster at the end of the period (M.M. 3) is noticeably different from that of the earlier part (M.M. 1 and 2). By the time we reach the middle of the Late Minoan period, when the art and civilisation of the Minoans was at its zenith and the great remodelling of the Palace of Knossos was undertaken, we find that the craftsmen have come to the conclusion that the power of setting to form a plaster was mainly due to the material they obtained by burning limestone, and so used this material pure, without any admixture. By so doing they lose that hardness and tenacity which is obtained by the combination of the lime with the alumina silicates, but they obtain a perfectly homogeneous plaster of a brilliant white colour. The circumstances influencing the change are not far to seek; so long as the chief function of the plaster was structural—the facing of walls to resist decay—colour and texture were immaterial; but as the practice of painting on the walls developed, more and more attention would be paid to producing a surface suitable for decorative treatment. For this purpose fineness of grain, in order to prepare a perfectly smooth surface for painting, and brilliant whiteness in order to enable the designs to tell to the utmost, were desirable, and what the Minoan craftsmen were evidently striving after as their skill in decoration increased.

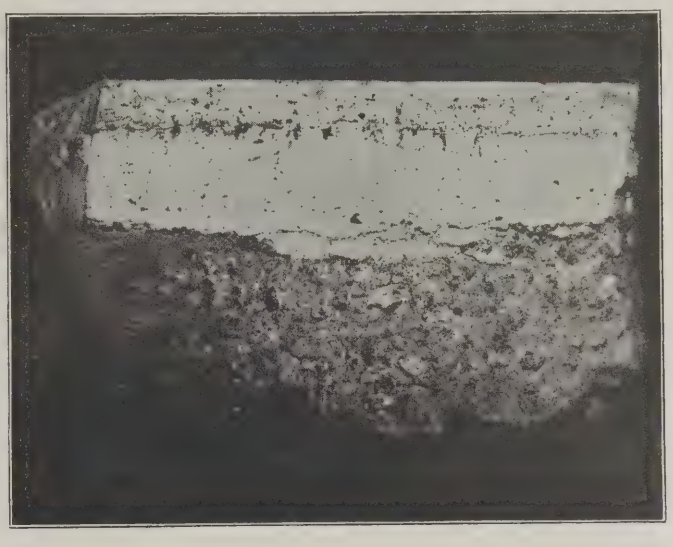


FIG. 2.—SECTION OF TYPICAL PLASTER OF THE "PALACE PERIOD" AT KNOSSOS (LM_2). (Exact size of original.)

In fig. 2 we have a section cut through a typical specimen of the Late Minoan plaster, together with the backing on which it was in some cases prepared. The difference in *colour* is not of course evident although the photograph gives some idea of the brilliant whiteness of this later material. Comparing it with fig. 1 the great difference in character and texture is evident.

The composition of this plaster, as deduced from the analysis of a large number of representative examples, approximates to that of a pure chalk lime, the content of carbonate of lime varying from 90 to 94 per cent.* In a preliminary account of this plaster,† I discussed at

* Here again it may be of use to give the exact composition of the specimen illustrated:—

Soluble (98 per cent.)	Calcium oxide	51·93
	Magnesium oxide	1·03
	Carbon dioxide	41·18
	Sulphuric anhydride	0·54
	Iron and alumina	1·81
	Alkali &c.	1·39
Insoluble (2 per cent.)	Silica	2·12

† *Journal of the Royal Society of Arts*, January 7, 1910.

length the question as to how it was prepared, and the general conclusion arrived at, from the evidence afforded by its chemical composition and its physical structure, was that nothing was employed in its production but caustic lime, unless some of the original limestone from which the lime was prepared was mixed with it in the form of powder before slaking. This view is further confirmed by the fact that a mile or so from Knossos, up the valley of the Kessoberos, is a huge cavern [fig. 3] in the hillside which marks the site of a Minoan quarry. Analysis of the limestone found in this quarry makes it clear that it was from here that the lime for the plaster was obtained, for the composition is too closely similar to the Late Minoan stucco to be accidental,* and the possibility that such a close agreement with a natural limestone should be reached by any mixture of materials is remote. It is certain that this limestone was quarried for some purpose, and we are justified in assuming that, in seeking for a material which would give them a whiter plaster than they had hitherto used, the craftsmen of the Palace period found that this limestone on burning gave them what they sought, and therefore used it exclusively.

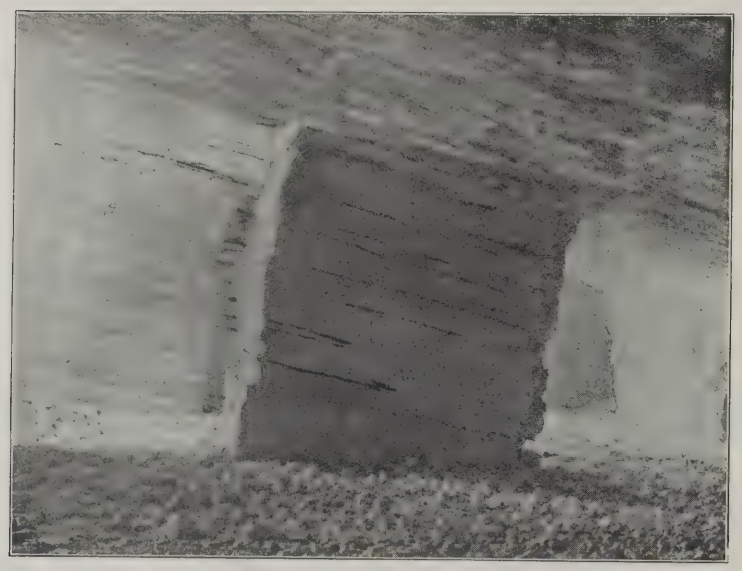


FIG. 3.—ENTRANCE TO LIMESTONE QUARRY.

Exactly how they set about the preparation of such a magnificent plaster from this lime is a matter of conjecture—the traditions of their craft have perished with them. One may suggest, although there is no direct evidence whatever in support of it, that possibly their method of procedure was to keep the lime in a slaked condition for long periods,† and for use mix it with a proportion of the same limestone from which the lime was prepared, this not being burnt but merely reduced to a very fine powder.

USE OF THE LIME PLASTER IN BUILDING.

It will be clear from this brief survey of the nature and development of the plaster that its original use was constructional, and although in later times it becomes chiefly important as a material for decoration, it remained to the end of the Minoan era an essential feature of their architecture, as is evident when we consider the extent of its use in the later Palace of Knossos.

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* The close similarity of composition may be seen by comparing the following analysis of a typical specimen with that of the Late Minoan plaster given above: —

Calcium oxide	52·09
Magnesium oxide	trace
Carbon dioxide	41·00
Sulphuric anhydride	0·20
Iron and alumina	2·18
Alkali &c.	0·98
Moisture	1·33
Silica	2·22

† It is conceivable that some of the curious shallow pits found in the floors of the galleries at Knossos may at one time have been used for preserving the slaked lime in good condition.

We must bear in mind that in Minoan architecture we find three principal types of construction, namely :—

1. Rubble and timber construction [fig. 4], used in earlier times and in the internal and partition walls in later times.

2. Gypsum masonry, as in fig. 5. The use of this is characteristic of Minoan buildings—it is a stone composed entirely of large crystals of calcium sulphate, which is found plentifully around Knossos.

3. Limestone masonry, as in fig. 6.

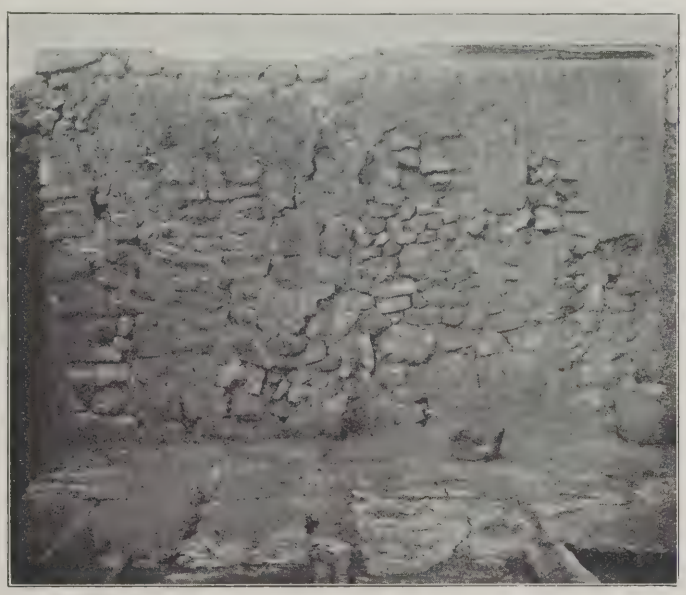


FIG. 4.—RUBBLE WALL (HAGIA TRIADHA).

The method of applying plaster to rubble walls, which obviously need such protection, is seen clearly in fig. 7 : the wall, composed of irregular blocks of stone set in a matrix of clay, was first provided with a liberal coat of coarse plaster made of lime mixed with a large proportion of small pebbles and broken pottery. On this backing a first coat of fine plaster was applied in order to form a true surface, which was followed by a second and final coat of uniform thickness if the wall was to be decorated. The section in fig. 2 shows the whole structure, the total thickness of plaster being in this case about three-quarters of an inch. In some cases thin partition walls are found [fig. 8] composed simply of clay, supported and held together by the plaster, which forms a continuous casing over the whole surface.

FIG. 5.—WALL OF SQUARED GYPSUM : THE ROYAL VILLA, KNOSSOS.

In the case of ashlar walls, which did not require to be brought to a true surface, the rough backing to the plaster was omitted, the plaster itself being laid direct on the stone. Gypsum walls are particularly well adapted for receiving the plaster, as a good grip is afforded owing to the exceptional structure of the stone, which consists entirely of large interlocking crystals with serrated edges. Where, as is sometimes the case, gypsum masonry was employed in conjunction with rubble walls, shaped blocks being used for the doorways, &c., the wall would be brought flush with the surface of the gypsum by means of the rough backing

and the fine plaster carried from one to the other, as seen in the diagram [fig. 9]. When one bears in mind the nature of gypsum it is evident that the facing of plaster was even more of a structural necessity than in the case of rubble walls. When protected by this plaster it forms a fairly satisfactory building stone on account of the ease with which it can be worked; without such protection it is unsuitable for any purpose but ornament, for it is so soft as to be readily scratched by the finger nail, and so soluble in water as to almost melt away when exposed to the rain. In a country like Egypt such a stone might perhaps be left unprotected, but in Crete a squared block of this stone will show appreciable denudation after a single season's exposure.

FIG. 6.—LIMESTONE MASONRY: CENTRAL COURT, PHÆSTOS.

As a general rule the plaster as applied to gypsum walls is about half an inch thick, but in some cases, notably in the staircase of the Royal Villa discovered some little distance to the N.E. of the Palace of Knossos, it is the merest wash, about one-sixteenth of an inch.*

FIG. 7.—WALL OF THE THIRTEENTH MAGAZINE, KNOSSOS, SHOWING THE METHOD OF FINISHING RUBBLE WALLS WITH PLASTER.

Where limestone was employed in building the plaster facing was not so necessary. The Minoan builders, however, either did not realise the essential difference in the composition of the two materials or preferred the plaster surface to that of the dressed stone, for limestone walls were treated in identically the same manner as gypsum, with one or two exceptions referred to below. Very often the surface of the stone was scored over to give it a better key (as seen in fig. 6).

Exhaustive examination of the whole of the remains on the principal sites reveals ample evidence for reconstructing the condition of the buildings when in state of habitation, and it is clear that practically the whole of the building was finished in plaster.

That it was invariably used on internal walls one may accept without comment, but that its use should extend to the paving of floors is rather less obvious. In many places, however, the plaster can be traced down the

* "The Palace of Knossos," *Annual of the British School at Athens*, IX. p. 133.

wall and returning to the floor without a break (fig. 10). A noteworthy case is that of the "Corridor of the Procession" at Knossos, where a row of fine slabs of gypsum extends down the centre of the floor, the margins being paved with rough blocks of slate. The impression one obtains from seeing this in its present state is that the flooring plaster only extended over the margins, leaving a central footway of polished gypsum; yet there is sufficient evidence to prove that the plaster extended across the whole of the corridor, covering the polished gypsum as well as the rough paving.

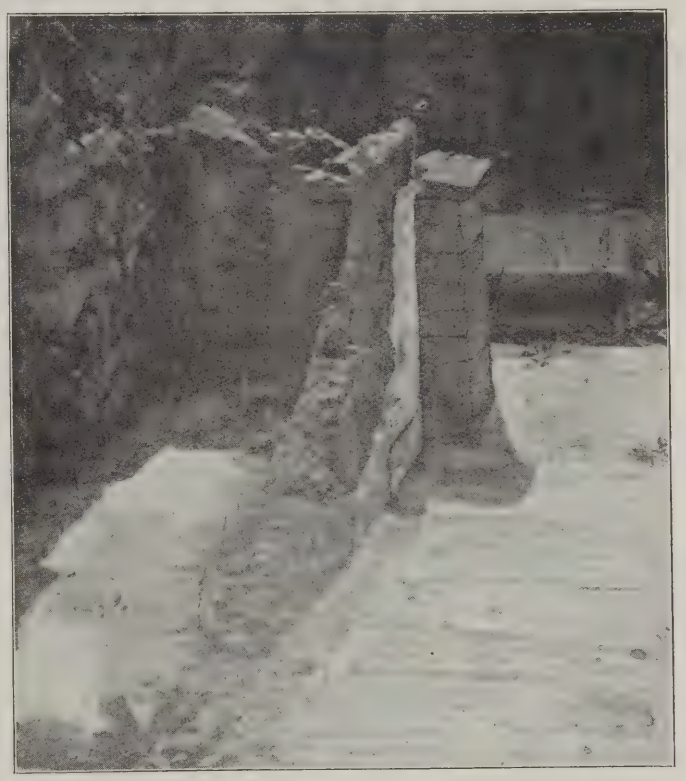


FIG. 8.—REMAINS OF THIN PARTITION WALL OF CLAY CASED WITH PLASTER—S.E. QUARTER.
(The wall has been supported by modern brick piers to preserve it.)

The use of plaster on staircases can also be traced in many instances—an example is seen in fig. 11, from the Royal Villa at Knossos. The evidence as regards external walls is equally complete; traces of plaster are found adhering to the outer walls at Knossos, Phæstos, and Hagia Triadha. I have traced it all round the foot of the walls of the great central court at Knossos—these walls for the most part are only standing to the height of a few inches, but the cement fillet covering the joint between the paving stones of the courtyard and the walls is in position in several places, and between it and the wall the plaster can still be traced. Fig. 12 shows this clearly: here a portion of the cement fillet has been removed showing the several layers of which it is formed and the plaster running down to the foot of the wall behind it. This cement necessitates a word in passing: it is essentially a lime concrete, prepared from lime of practically the same composition as that used for the plaster, strengthened by the addition of coarse sand and pebbles. A similar material was generally used for paving the floors of corridors and light wells open to the sky, large smooth pebbles being mixed with the lime to form a durable and at the same time decorative pavement [fig. 13].

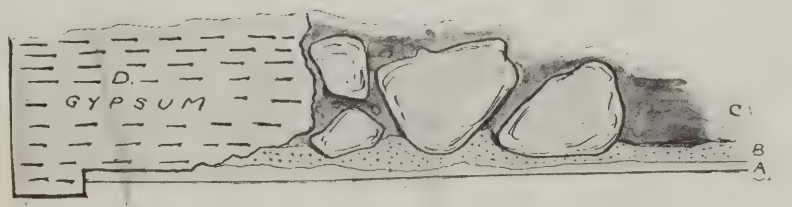


FIG. 9.—SECTION OF DOORWAY, THIRTEENTH MAGAZINE, KNOSSOS.
A, fine plaster. B, rough backing. C, rubble wall. D, gypsum block with rebate for door.

An exception must, however, be made to the statement as to the completeness of the evidence in the case of the walls of impluvia, or light wells open to the sky. Here the evidence is conflicting. In some cases, as in that illustrated in fig. 14, remains

of the plaster can be clearly seen on the walls, and at the foot of the wall it is found in position, between the edge of the "terrazza" and the stone. In other cases, as in the open court that lighted the grand staircase at Knossos, it is equally certain that the limestone masonry was left exposed, for one can trace the "terrazza" of the floor running up on to the wall, and not only so, but raised at the edge to form a fillet [fig. 15] : it is certain that if the wall had been plastered this fillet would have been made against it, and we should find remains of

FIG. 10.—REMAINS OF PLASTER ON THE WALL AND FLOOR OF THE WEST PORTICO, KNOSSOS.
(The outlines of the plaster have been strengthened to render them more obvious.)

plaster at the foot as in other cases. Possibly this case is an exception—certainly the balance of evidence is in favour of the general practice having been to finish all walls of whatever character with plaster, and we may conclude that as regards the exterior of a Late Minoan palace, it presented an expanse of white plaster, relieved in places perhaps by flat washes of colour or some decoration, whilst the interior was finished in the same plaster, in places left white, but for the most part decorated with elaborate designs.

THE USE OF PLASTER IN DECORATION.

This brings us to the consideration of the more interesting aspect of Minoan lime plaster —its use as a basis for decoration. Lime plaster offers peculiar facilities for decorative treatment by reason of the fact that if a pigment merely mixed with water is applied to the surface as soon as the initial setting has taken place, it becomes firmly attached by the gradual transformation of the slaked lime into carbonate of lime.

This method of decorative painting, so extensively practised in mediæval times, especially by the Italians, who christened it "fresco" painting,* has certain qualities which cannot be altogether reached by any other method: qualities derived partly from the severe limitations the method imposes on the artist, and partly from the nature of the surface and the entire absence of anything in the way of a vehicle or medium, which in all other processes is necessary to attach the pigments to the surface. The fact that it was only necessary to wash pigment over the freshly rendered plaster in order to colour it permanently must have been discovered in very early times, for it is quite the usual thing to find the Early Minoan plaster coloured a uniform red by a liberal coating of pigment—the fragment from Vasiliki illustrated in fig. 1 is so coloured. This red is the only colour that has been found in Early Minoan work, and one can well understand that it would be the first pigment to be used, for it is what is generally known as red ochre, prepared by burning yellow clay. When they burnt their lime, they would notice that here and there spots of bright red would be developed, which would be traced to impurities in the shape of bands of yellow clay in the limestone. As far as evidence is available, for a considerable period this red pigment was only put on as a flat wash over the surface of the plaster, and rather as a finish to it than with any idea of decorative effect. The main purpose of the plaster was to protect the buildings, and the use of the red pigment has a certain advantage even in this connection as it renders the surface more uniform and slightly less absorbent. From the use of pigment in this way, however, the development of some form of decoration is a natural step. Other coloured substances would be tried, and it would be discovered that any pigment could be attached to the plaster if applied in the same way. By using the clay in its natural state yellow (ochre) would be obtained, and black would be readily prepared either from charcoal or, as was more customary, by powdering carbonaceous shale, whilst the lime itself could be used for white. The accumulation of a palette of such natural pigments is the general course of events in the development of painting amongst all primitive races.

FIG. 11.—PLASTER IN SITU (MARKED A) ON THE STAIRS OF THE "ROYAL VILLA," KNOSSOS.

The development of decorative painting in this way would naturally direct attention to

* The limitation of the term *fresco* to this method of working is not generally observed at the present time. Owing to the fact that fresco is most usually employed in connection with mural painting, the name has been gradually transferred from the process of working to include any form of mural painting, however produced. I propose, however, to limit the term strictly to a painting executed by applying pigments to a caustic lime surface, without the use of medium of any kind.

the possibility of improving on their original plaster, which was but ill-adapted to the purpose, and by adding more and more lime (to condense into a few words the development of centuries) they would gradually arrive at the pure lime plaster of the Late Minoan period. During the Middle Minoan period the palette also was supplemented by the introduction of a blue pigment, not like those previously used, a natural product, but a powdered blue glass prepared by fusing sand with soda, and coloured by silicate of copper. How the introduction of this pigment came about is a matter of speculation—it occurs quite early in the Middle Minoan period, when however it was only employed to a limited extent—probably because it was a costly material at that time. With the growth of decorative painting in later times, however,

FIG. 12.—FOUNDATIONS OF THE WEST WALL, CENTRAL COURT, KNOSSOS, SHOWING THE PLASTER (A) BENEATH THE CEMENT FILLET (B).

it comes more and more into prominence, and its extensive use is a characteristic feature of Late Minoan designs. Its manufacture was also evidently improved in course of time, for the pale greenish blue of the Middle Minoan work bears no comparison with the beautiful colour found in later times. Its long-continued use argues local origin, but it is so closely akin to a pottery glaze as to suggest having been derived from this source, and such vitreous materials are not at all characteristic of Minoan art until quite late—glass, in fact, as a material was scarcely known to the Minoans. On the other hand we find such a blue glass used in pottery from very early times in Egypt, and from the XIth dynasty onwards it was extensively used as a pigment: every stage of its manufacture, proving conclusively that it was manufactured in Egypt, has been traced. We know that from quite early times there was considerable intercourse between the two countries, and that the Minoans exported their red pigment to Egypt,* and in the absence of any evidence as to its manufacture in Crete, it is reasonable to suppose that the blue may have been imported from Egypt in exchange.

* Flinders Petrie, Abydos, ii. 38.

We have already seen that in the Late Minoan period fresco painting was developed to the extent of becoming the characteristic art of the period. Of the peculiarities of Minoan design it is beyond my province to speak,* but I may perhaps indicate the extent to which the art was practised at Knossos when the Minoan civilisation was at its height, as revealed to us by a detailed examination of such fragments of the vast palace as have survived its fall and the subsequent burial of its remains for twenty-five centuries.

There is every reason to believe that, with the possible exception of some of the external walls, the plaster was never left entirely plain, although in some of the less important apartments the decoration was extremely simple. In the "magazines," for example, the only decoration found is a series of bands of red—a broad band 85 cm. from the floor, separated by its own width from a narrow band (seen in fig. 7), and then another similar pair of bands near the ceiling, the remainder of the surface being left in its natural white. This simple decoration is found throughout the labyrinth of rooms surrounding the "magazines," and in the similar areas in the eastern portion of the palace, but in all the more important rooms the surface is entirely decorated in a manner similar to that found centuries later at Pompeii—a characteristic arrangement is that of panels of elaborate figure subjects or symbolical designs, set in a background of deep red. This red background seems to have formed part of the scheme of decoration in the more important halls reserved for ceremonial purposes, and some symbolic meaning was evidently attached to its use. It is probable that this may be connected with the fact that red was the first colour to be used in connection with plaster decoration, and its use, handed down from time immemorial (for at least a thousand years elapsed between the production of the fragment of plaster seen in fig. 1 and that in fig. 2), became associated with the traditions of the race.

FIG. 13.—TERRAZZA OF LIME CONCRETE, USED FOR PAVING CORRIDORS. (Exact size of original.)

In what is known as the Domestic Quarter of the palace, however, devoted to the Royal apartments, such as the area surrounding the Hall of the Colonnades, a lighter background was the rule, and very often, as in the Queen's Megaron, a frieze of characteristic spiral design was carried round the walls. In such places as porticos again, the surrounds of the subject panels were decorated to imitate slabs of variegated marble. This is the case, for example, in the antechamber to the Throne Room and the great portico of the West Court. In the latter case the painted surface was mostly burnt away at the time of the conflagration, leaving the white body of the plaster exposed, but remains of it can be traced at the foot of the wall as shown by the dark space in the illustration [fig. 10], marking where the surface was protected from the fire by fallen débris. At Knossos there is no indication that elaborate designs were painted on the floor as was common in later Mycenæan times, but the prevailing colour was the natural white of the plaster, with a broad red band running round about a foot from the walls and the centre of the floor arranged chequerwise in red and white, or black and white.

* A detailed description is given in "Painted Plaster Decoration at Knossos" by Theodore Fyfe, JOURNAL R.I.B.A. December 1902.

Mention must also be made of the fact that the decorative use of the plaster was not confined to painting, great skill being also shown in modelling it before setting to form figures in low relief which were subsequently painted in fresco. These moulded reliefs—life-size models of men and bulls—are some of the finest remains of Minoan art, and must have added immensely to the decorative effect of the plasterwork. They are eloquent testimony to the mastery over the material possessed by the Minoan craftsmen.

This, however, is somewhat of a digression. Returning to the technical aspect of the question, I have stated more than once that one of the great points of interest in connection with the decorative paintings of the Minoans is their bearing on the origin and early development of fresco painting. Not to describe in detail the long series of observations which have led me to assert that fresco technique was almost universally employed in the execution of these paintings, they may be summarised thus :—

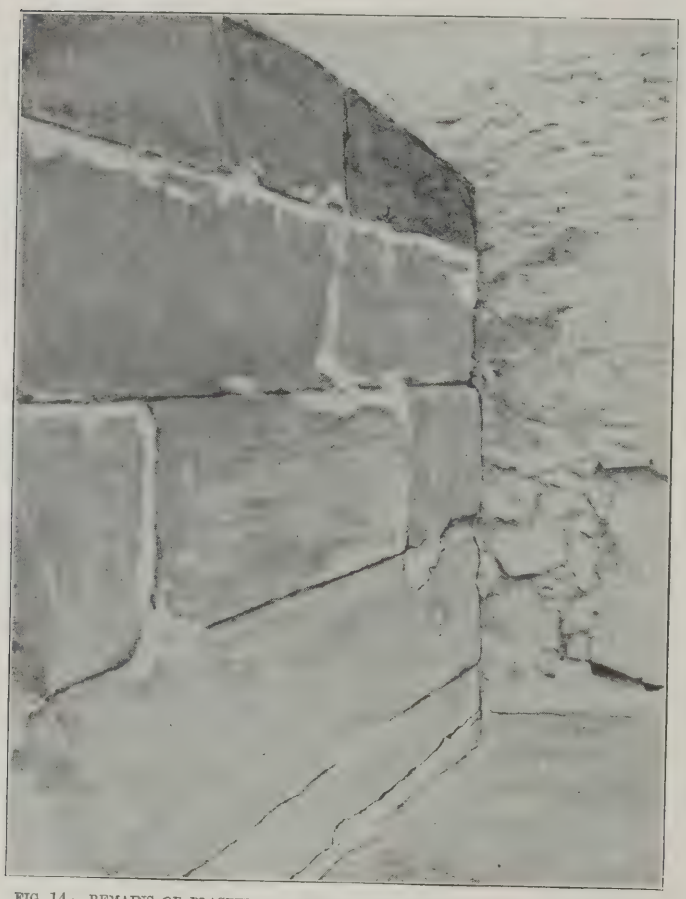


FIG. 14.—REMAINS OF PLASTER IN POSITION ON WALL OF LIGHT WELL: CORRIDOR OF THE BAYS, KNOSSOS.

1. Careful observation generally reveals places where the surface of the plaster has been dragged up by the brush in laying on the pigment, and sometimes this is apparent on the most casual examination, as in fig. 16.

2. The dimensions and broad outlines of the design are often set out on the plaster by incised lines, not scratched by a knife on the dry plaster, but made by a blunt point passed over the still soft surface: sometimes it can be clearly seen that straight lines have been made by a stretched string.

3. A thin section examined under the microscope shows that there is no sharp line of demarcation between the painted surface and the body of the plaster, one merging into the other.

4. No medium can be detected, and the painted surface stands prolonged treatment with water, caustic alkali, alcohol, ether, toluene, and other solvents, either hot or cold, without injury.

5. A fragment of the painted surface treated with dilute hydrochloric acid disintegrates with effervescence, the carbonate of lime which binds the particles of pigment dissolving, leaving them in a state of powder.

These facts, taken together and in conjunction with the character of the work as regards design and execution, leave no room for doubt that fresco was the general method of working. At the same time it is quite probable that distemper painting was occasionally employed as an accessory. This was the recognised method of painting in Egypt, and as there was evidently

considerable intercourse between the two countries it is highly probable that it was known to the Minoans. But they can only have employed it occasionally, as a sort of makeshift, for amongst the large number of specimens examined I have only come across one instance of its use. This was on a small fragment which attracted my attention by its exceptional nature, which was explained when I found that some of the colouring of the surface could be washed off, leaving the basis of fresco untouched.

There are, it is true, one or two difficulties in the way of accepting this hypothesis of fresco painting. The huge scale and detailed design of some of the paintings, and the absence of any indication of the thin final coat or "intonaco" characteristic of mediæval work, and of any trace of the joins showing where this "intonaco" was put on fresh for each day's work, is worthy of comment. A more frequent criticism, however, is that it is quite common to find one pigment painted over the top of another—ornament being painted on a wash of colour, or the outline of a figure on a background, for instance, which seems at first sight to point to execution in some form of distemper or tempera on the dry plaster. These facts, however, are not altogether inconsistent with the use of fresco, when one bears in mind the essential difference between the Minoan work and that of Roman or mediæval times—the enormous thickness of the plaster, often over three-quarters of an inch, instead of the one-eighth or less characteristic of later times. This would result in there being a reserve of the soluble calcium hydrate available to fix the pigments for a very much longer period than one is accustomed to regard as possible, and allow of somewhat more deliberate work. The slow setting incidental to such a thick body of plaster would also permit this soluble hydrate to penetrate and weld together superimposed layers of pigment: repeated examination shows that where the design is built up in this way the different layers of colour penetrate one into the other and are bound together only by a film of carbonate of lime.

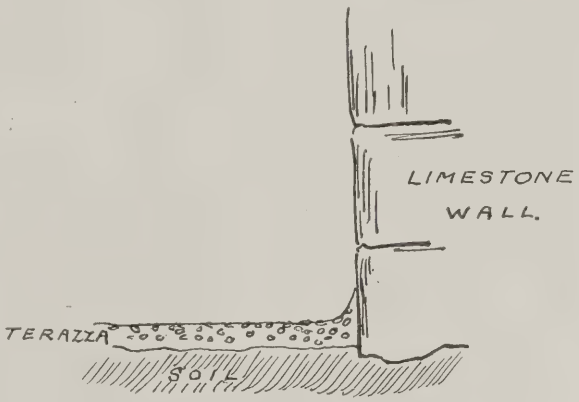


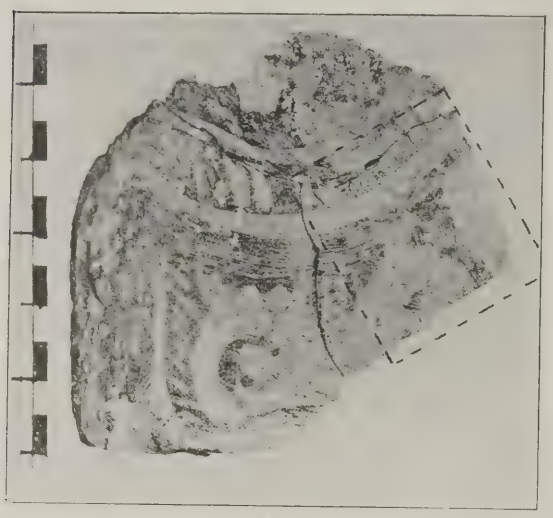
FIG. 15.—DIAGRAM SHOWING STRUCTURE OF FLOORING OF LIGHT WELL OF HALL OF COLONNADES, KNOSSOS.

But probably the explanation lies in their method of working. From a careful study of the designs, both of the remains *in situ* and the restored drawings made by M. Gillieron, it is clear that where figure subjects were to be included in the decoration of a room these were arranged in panels, the remainder of the wall space being either left white, or more usually painted in a flat wash of red, with horizontal borders of red and white bands, or perhaps a frieze of the characteristic spiral design.

This simple work would be executed as the plaster was put on, in the same way as the simple decorations of the "magazines" and other unimportant rooms—probably by the plasterers themselves, or at any rate inferior workmen, the panels to be occupied by the figure subjects being left unplastered. These spaces were then filled in and painted by decorative artists, the decoration of each panel being proceeded with immediately the plastering was finished, the artist working with a rapidity and certainty born of constant practice and long-established tradition.

That this was the method of working is indicated by the general style of design, which may be roughly described as outline and wash in two dimensions, no attempt being made at representing the third dimension or even to indicate anything in the way of shading or folds of

drapery and so forth. Figures are drawn in black outline, filled in with broad washes of colour, on which again details of ornament, &c., are added. The liberal use of what Sir Arthur Evans has described as "artistic shorthand"* is further evidence of the rapidity with which the paintings were executed.



A

B

FIG. 16.—FRAGMENT OF PAINTED PLASTER SHOWING BRUSH MARKS. A, less than natural size. B, portion outlined in A enlarged.

The skill with which figures in low relief were modelled in the plaster, details such as the muscles of the arm being accurately represented, indicates that it was not from any want of skill but rather by deliberate intention that the paintings were executed in this manner. One specimen of plaster in relief which I found in the Museum at Candia provides some evidence of the division of labour in the preparation of these decorations. Here the modelled portion was not continuous with the general surface of the wall but added to the flat surface, for I could trace the line of junction; moreover, the wall had been treated with a thin wash of red on the flat before it was added. Evidently the general wall surface was prepared by the plasterer and the modelling added immediately afterwards by a more skilful worker.

As regards the insertion of the panels this is suggested by the fact that fragments decorated in the characteristic manner employed for the borders of these panels often show a straight clean cut edge, showing that there was a joint in the plaster here, whereas in the corners of the rooms and even at the junction of walls and floor the plaster is returned without a break. In this connection it is interesting to compare the conclusions arrived at by Dr. Mackenzie in his report on the frescoes found in Melos,† which are, as he shows, Cretan in origin. He notices the clean edges which surround the design "as though the picture had been enclosed in a wooden frame," and suggests that such designs may have been prepared in framed panels at Knossos, the centre of the craft, for export.

In the foregoing remarks I have endeavoured to trace the development of the use of lime-plaster and fresco decoration from the earliest times to the second Late Minoan period, when art and civilisation alike suffered a period of eclipse in Crete with the fall of the great Minoan palaces. With the transfer of supremacy to the mainland of Greece, the rise of Tiryns, Mycenæ, &c., and the development of Homeric ages, a fresh chapter opens in the history of decorative paintings, involving many vexed questions, the discussion of which would take us beyond the scope of the present article.

* Provisional Report for 1900: *Annual of the British School at Athens*, vi. p. 47.
† *Journal of Hellenic Studies*, 1904, Supp. 4, pp. 70–77.

EWAN CHRISTIAN

(President R.I.B.A. 1884–86, Royal Gold Medallist 1887)

A MEMOIR.

By J. Standen Adkins, Licentiate R.I.B.A.

IN the troublous times which preceded and followed the Commonwealth, William Christian, of Ronaldsway, familiarly known among the Manx people as Illiam Dhone, was the champion of the rights of the islanders against the arbitrary power of the Earl of Derby, "King of Man," and drew down on himself the bitter resentment of the house of Stanley. Being absent from the island at the time of the Restoration, he hesitated to return, but on the proclamation of indemnity he crossed the sea, and on landing was seized by order of the Countess of Derby, condemned after an irregular trial, and shot at Hango Hall 2nd January 1662. By the peasantry he was regarded as a martyr to their cause, and his fate was bewailed in a popular ballad, while his memory has been kept green among readers of fiction by Sir Walter Scott, who made the execution the keynote of *Peveril of the Peak*.

This same William was the son of the first who bore the name of Ewan Christian, having dropped the prefix of the ancient family name McChristen, by which his ancestors had been known from their first settlement in the Isle of Man.

Another Ewan, grandson of William, died in 1719 leaving two sons, John the elder and Thomas; among the descendants of the elder brother were numbered Edward Law, who became Attorney-General and was raised to the peerage as Baron Ellenborough, and Fletcher Christian, the ringleader of the mutineers of the *Bounty*. The younger son Thomas took Holy Orders and settled in Westmorland; his grandson, Joseph, married Miss Katherine Scales, of Thwaitehead, in Lancashire, and was residing in London when his seventh child was born on 20th September 1814. To this son was given the favourite family name Ewan, and he soon grew to be a sturdy little fellow, taking the keenest delight in country pursuits when taken by his parents to stay with friends. When he was seven years old his father died, and he lost his mother the following year, but, although deprived of her care at such an early age, her influence had already done much to form his character, and he always cherished and deeply revered her memory. After the death of his parents he went to live with his grandparents at Mortlake, where his grandfather soon recognised his ability and his determination to accomplish whatever he attempted. In 1823, in his ninth year, he was admitted to the junior department of Christ's Hospital, and after a short time spent in the Hertford school was transferred to the great school in Newgate Street, where, as he wrote many years after, he was buried in bricks and stone and mortar, with no trees, flowers, or insects—and never in contact with anyone who cared for country delights. To this town education Mr. Christian ascribed a deficiency in the habit and power of observation which might have been fostered by the opportunities of country life; but, however apparent such a defect may have been to himself, it was far from being so to those who had the privilege of accompanying him on his travels either on business or pleasure, for it always appeared that nothing of interest escaped his notice.

There was, however, one great compensation, and the faculty of observation which could not be directed on the beauties of Nature was diverted to the practical study of the art of which he was destined to become a master. The erection of the great dining-hall, designed by John Shaw, Surveyor to the Governors of Christ's Hospital, was coincident with his stay at the school, and its completion took place just before he left. Of course, the boys were not allowed within the area of building operations, but the attraction was irresistible, and the usually law-abiding youth enlisted the sympathy of the workmen, who connived at his presence in a secluded corner from which he could observe all that was going on. Originally destined for Holy Orders, it is probable that the interest in building developed by these surreptitious visits may have been the determinative cause of his final choice of a profession.

Leaving school in 1829 he went to reside with his eldest brother, John, and on his fifteenth birthday was articled to Mr. Matthew Habershon, of 61 Mortimer Street, Cavendish Square.

A fellow-pupil was Thomas C. Hine, with whom he always continued friendly relations, and in the third year of his articles he was joined in the office by James K. Colling, who was two years his junior, and thus was commenced a friendship and professional connection destined to prove lifelong, Mr. Colling having been associated with Mr. Christian in his latest work, being entrusted with the design and superintendence of the carving at the National Portrait Gallery.

In the early years of pupilage Ewan Christian was admitted to the Architectural School of the Royal Academy, and attended the courses of lec-

tures by Sir John Soane, read in his absence by the Professor of Painting, and described many years after by the student as being devoted to "all the dry bones of the art, with but little allusion to its glorious beauties." More congenial work was found in the drawing school to which he always alluded with appreciation, and he made such good use of the opportunities afforded that his work was twice hung at the annual exhibition before the termination of his articles.

In 1834 he made his first continental tour, lasting three weeks, during which he visited Paris, Orleans, Tours, Saumur, and Nantes. On returning to England he prepared designs for churches at Clappersgate and Kendal in the hope of being appointed to carry out the work.

About this time Mr. Habershon was engaged in the preparation of a book illustrating the Half-Timbered Houses of England, and he employed his late pupil to hunt for suitable examples in Lancashire, Cheshire, and Shropshire, and to prepare drawings of those which he found. So ably was this commission fulfilled that when the book appeared in 1836 more than half the illustrations were from his sketches.

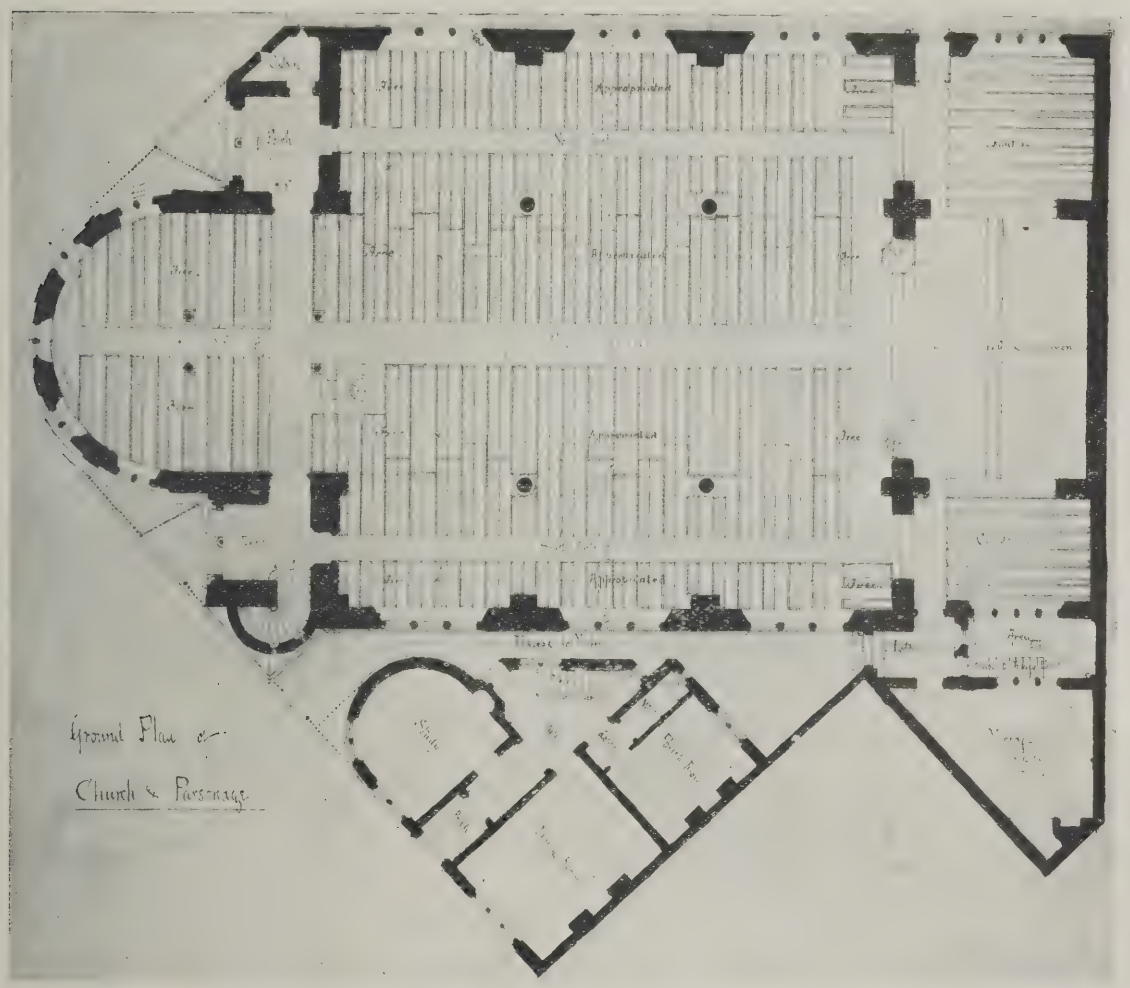
After the great fire which destroyed the Houses of Parliament, the Select Committee issued a report in favour of an open competition for the new buildings in June 1835. Designs were accordingly advertised for, and were required to be delivered by 1st November of the same year. Nearly a hundred architects competed, among them Mr. W. J. Turner, who engaged Mr. Christian to assist in the preparation of his drawings. The shortness of the time allowed for the execution of designs, which were of necessity somewhat complicated, involved close application, and work had to be continued by artificial light to such an extent as to involve a severe strain on the eyesight which produced soon after a serious weakness.

The first four months of the next year were spent in the office of Mr. William Railton (afterwards Architect to the Ecclesiastical Commission, 1838-48), and in April he entered the offices of Mr. John Brown, of Norwich, where he was again associated with his former fellow-pupil, J. K. Colling, and was engaged in the preparation of the drawings for Colchester Union, a work which completed the injury done to his sight in Mr. Turner's office and necessitated an absolute rest from drawing. As a period of inaction was not at all consistent with his disposition, he decided to turn the enforced respite from office work to good account by gaining experience of practical work, and to this end obtained the appointment of clerk of works to superintend the erection of the buildings at Colchester for which he had prepared the drawings. In this capacity he was distinguished by indefatigable attention to his duties and the minute accuracy of his reports; but his relentless hostility to all attempts at scamping often brought him into conflict with the workmen employed. At one time when they thought him absent, he saw from a window overlooking the site some of the men hurriedly laying a bed of loose gravel where concrete was specified, and before they could cover it in he suddenly confronted them with an indignant rebuke. On another occasion when an important drain was being laid he watched the progress of the work "like a cat watching a mouse," and this close surveillance was so greatly resented by the workers that they determined to revenge themselves by bringing discredit on the clerk of works who interfered with their slipshod methods. The drain was at length finished, but no sooner was it flushed than a considerable portion of it burst up. On examination it was found that a flagstone had been inserted in the course of the drain, and further inquiries at length elicited the information that one day after suspending work for the dinner-hour and watching the clerk of works safely away from the site, the men had returned, uncovered the section of drain just completed, built in the stone and carefully filled in the ground so as to make it appear just as it had been when left.

In 1840 Mr. Christian became an Associate of the Institute, and soon after was engaged in superintending the erection of the church of St. Margaret, Lee, under Mr. Brown. In June of the following year he was appointed Surveyor to the Marylebone Savings Bank, which was apparently his first independent work; but very little could have been carried out at this time, as within four months of the appointment he left England for an Italian tour extended over more than seven months, three of which were spent in Rome, where he made the acquaintance of T. Hayter Lewis and Horace Jones. Other places visited during the tour were Turin, Genoa, Leghorn, Pisa, Naples, Pæstum, Amalfi, Florence, Bologna, Venice, and Milan.

Some months after his return from Italy Mr. Christian took up his residence and started an office at No. 44 Bloomsbury Square (25th October 1842), and submitted a design in competition for a church at Hildenborough, which proved successful. This work was carried out in the following year. The church dedicated to St. John was designed to accommodate a congregation of six hundred in a wide nave with shallow transepts; in point of design it can hardly be considered a success from the present standard, but it was decidedly in advance of most ecclesiastical work of the time; the style was "Lancet," the east end formed the half of an irregular dodecagon, a tower surmounted by a broach spire occupied the angle between the chancel and south transept, its lower stage formed a porch and contained a staircase, giving access to a gallery which occupied the transept, cutting across the lights of a triple lancet window in its south wall, an error in design which was carefully avoided in all subsequent work. A view of the church was exhibited at the Royal Academy in the year of its

erection. The following year he was entrusted with the restoration of the church of St. Nicholas, Austrey, Warwickshire, an interesting church with work of the thirteenth, fourteenth, and fifteenth centuries ; the operations comprised some rebuilding and general repairs, renewal of window tracery and weathering of buttresses, re-roofing, and a new south porch, and the whole was completed to the satisfaction of all concerned.

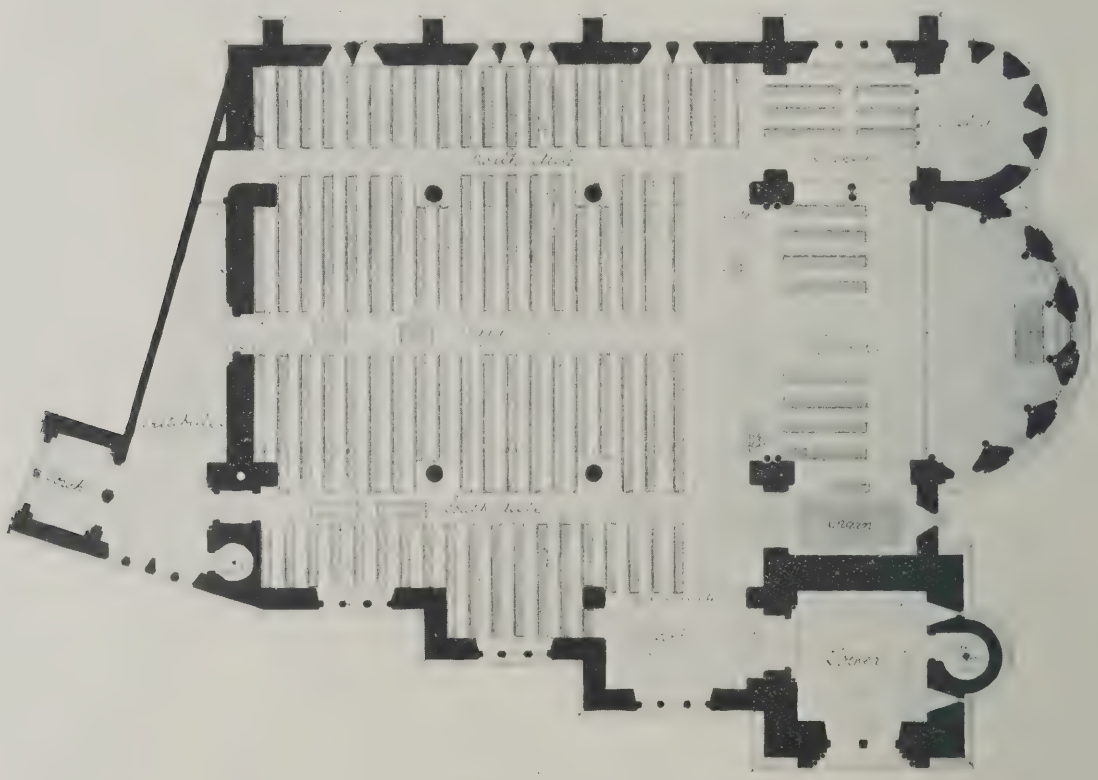


CHURCH OF ST. STEPHEN, SPITALFIELDS. GROUND PLAN OF CHURCH AND PARSONAGE. EWAN CHRISTIAN, ARCHITECT.

In 1845 Mr. Christian erected his first clergy house, a vicarage at Preston, Lancashire, of quiet domestic character, stone built, with square-headed mullioned windows and well proportioned gables ; and received his first pupil, Charles Henry Purday, son of Mr. Henry Purday, the well-known composer and writer on musical subjects. Rarely have master and pupil been so well suited to each other, both devoted in the most whole-hearted way to the study of their chosen profession and equally indefatigable in work ; each finding the same enjoyment in the observation of the beauty of Nature, it is not surprising that the connection proved lifelong, and that when in after years the office grew to large proportions Mr. Purday was entrusted with the chief part in its management and eventually received as a partner. Mr. Christian was always an early riser, and at this period he used to indulge in a brisk walk round the "squares" in the early morning, probably regarding these patches of turf and foliage as oases in the desert of dreary streets, and finding refreshment in the comparative quiet and freshness at an hour when but few people were stirring. A frugal breakfast was followed by a day of hard work, often continued until late at night when pressure occurred, but naturally in the early years of independent practice, in spite of

numerous competitions, and the conscientious attention to every detail of such commissions as were secured, there was often not enough of occupation to satisfy his appetite for work, and in order to fill in the intervals of enforced leisure he decided to undertake the illustration of an ancient church for publication. With this intention he sketched and measured the little parish church of Skelton, a few miles out of the city of York, and proceeded with the preparation of the book whenever other work was not available; every matter in connection with its production was looked after with character-

and a Plan, Elevations, Sections, and Drawings in detail of all the Mouldings and Enrichments, made from measurements carefully taken for the purpose, by Ewan Christian, architect, and drawn in outline upon zinc by J. K. Colling. Together with a short descriptive account of the building in its past and present states. For the information of such as are unacquainted with this unique and interesting little Church, it may be advisable to state that it is one of the most perfect specimens of Early English Architecture on a small scale to be found in the kingdom, combining with a singular simplicity of form and outline, much elegance, beauty, and purity of detail, every way worthy of the attentive study of the ecclesiastical architect.

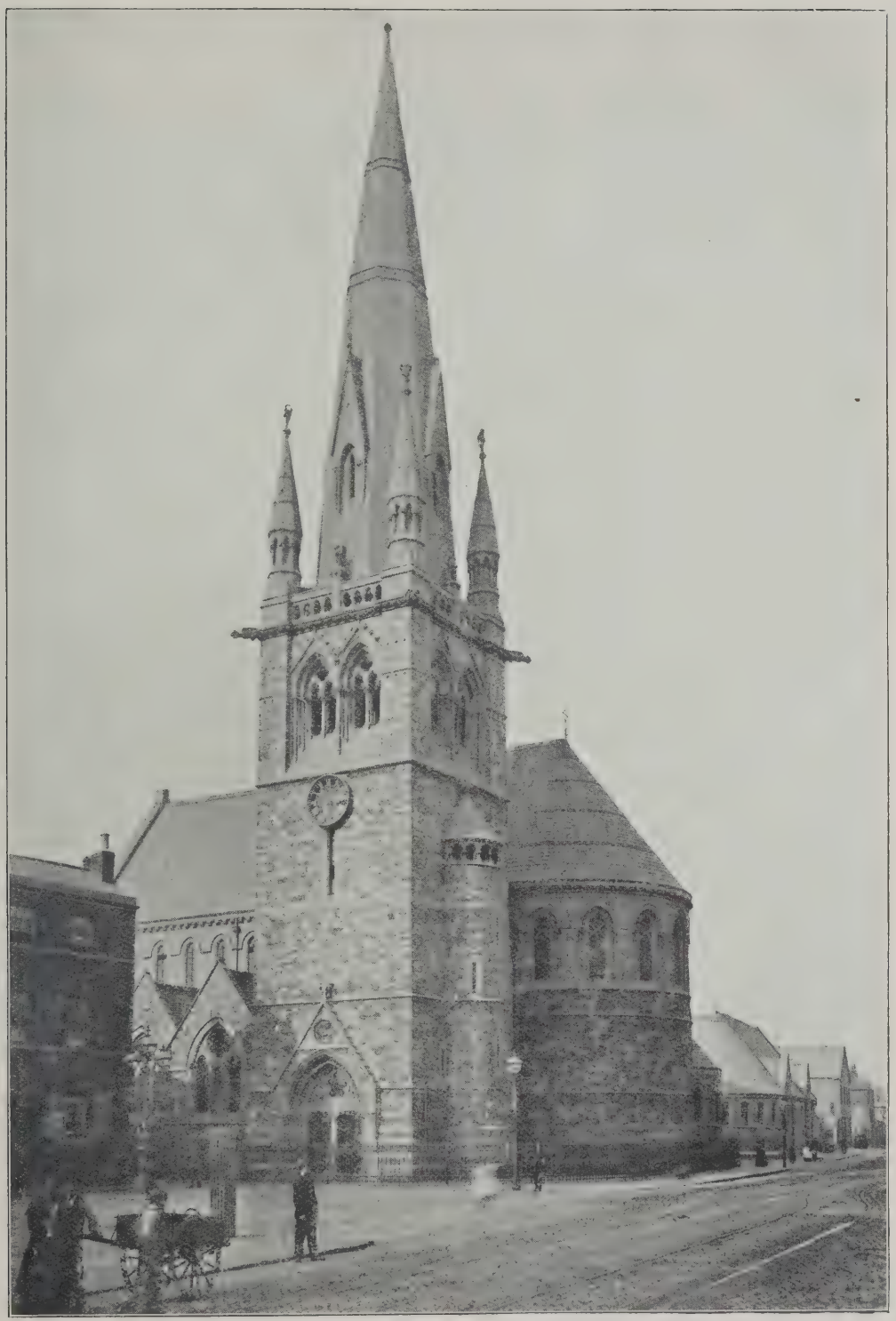


CHURCH OF ST. MARK, LEICESTER. GROUND PLAN. EWAN CHRISTIAN, ARCHITECT.

istic attention to detail, even the binding was designed by the author and carried out under his care. When the drawings were nearing completion he discovered that one of the minor details had not been actually measured; I think it was the cross on the bell gable; so he set off to York in mid-winter to amend the omission, taking advantage of the occasion to compare the drawings with the building and to correct and complete them on the spot. The views were drawn on the stone and the measured drawings on zinc by J. K. Colling. The publication was undertaken by George Bell and a circular issued in the following terms:—

Just published, *Illustrations of Skelton Church, Yorkshire*, consisting of General Lithographic Views in Tints,

The book appeared in 1846 with a list of over 170 subscribers, including the names of most of the leading architects of the day, though some of the old school held aloof. Conspicuous among these was Professor Cockerell, who, in response to the author's invitation to subscribe for the work, addressed to him a politely worded letter expressing the most absolute disapproval of all attempts to illustrate mediæval buildings or to assist in any way in the Gothic revival. Encouragement was not, however, wanting, and numerous letters were received expressing approval of the book; as an example of the general tone I quote a few words from the letter of James Wylson, architect, of Glasgow: "I sincerely hope it (the book) will realise your expectations in



CHURCH OF ST. MARK, LEICESTER. EWAN CHRISTIAN, ARCHITECT.

every respect, but if the pecuniary advantage gained be nothing to speak of, it must otherwise be a source of satisfaction that it has fallen to your lot to lay before the public and the profession an example so universally admired." It is significant of the changes which have taken place in the architectural world since that date that a clergyman wrote referring to the subscription list: "I counted 120 architect subscribers. Is it possible that so many can have full work?" Unfortunately the architect to whom the letter was written could not at that time reply that he for one was fully employed; so far was this from being the case that frequently his only occupation was the unsatisfactory one of thinking over the possible means of securing commissions, and he soon determined to

CHURCH OF ST. MARK LEICESTER: SKETCH BY A. H. HAIG. EWAN CHRISTIAN ARCHITECT.

undertake the illustration and publication of another old church. The second book, however, was never completed as the time of slackness was nearly at an end. A change of address was effected to No. 6 Bloomsbury Square, formerly the residence of Isaac Disraeli, now known as No. 5, and about the same time a competition was promoted for the restoration of the church of St. Mary, Scarborough (1847), for which he entered and devoted himself with eager enthusiasm to the preparation of the drawings. They were completed during a visit to the Isle of Man, and to ensure their delivery by the specified date he made the passage to the mainland in spite of a stormy winter sea which rendered the journey so hazardous that his friends begged him to abandon the competition rather than run the risk. The crossing was effected in safety, but the difficulties were not yet at an end. A heavy snowstorm blocked the line so effectively that a gang of about a hundred men were set to clear the track, and their exertions produced only an average speed of a mile an hour. But perseverance was at least rewarded, the drawings reached Scarborough just in time and earned for their author the unanimous approval of the judges and the commission to carry out the restoration. During the progress of the building (1848–50) Mr. Purday took up his abode at Scarborough to superintend the work, and his reports evidence the careful way in which he attended to the most minute details of the operations.

In the same year in which the Scarborough competition was won Mr. Christian carried off the second premium in the competition for the city offices of the Imperial Assurance Company with a Renaissance design of considerable merit, the best feature of which was the treatment of the rounded angle between Broad Street and Threadneedle Street. Another event of the year was his election to the appointment of Consulting Architect to the Lichfield Diocesan Church Building Society.

On the 6th July 1848 Mr. Christian married a daughter of Mr. William Walker Bentham, of Rochester. With characteristic devotion to duty he rose at an early hour on his wedding-day to write an important report or specification which was required without delay. The new home was established in Hampstead, and from that time onward Mr. Christian was identified with every project for the benefit of the inhabitants of the poorer districts in the neighbourhood or for the preservation of the beautiful environment of the suburb.

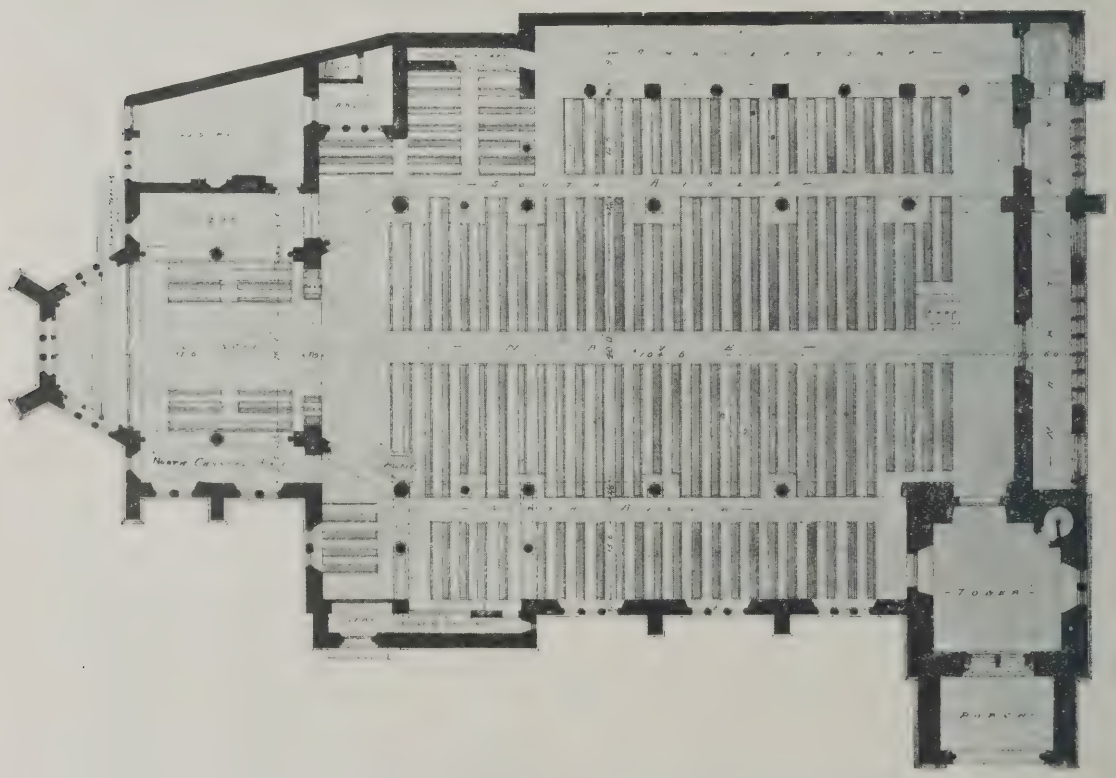
In 1850 Mr. Christian was elected Fellow of the Institute, and in 1851 was appointed Architect to the Ecclesiastical Commission, in consequence of which he removed his offices to a portion of the building occupied by the Commissioners (No. 10 Whitehall Place); he also became a member of the Committee of Honorary Consulting Architects to the Incorporated Church Building Society. In each case the connection was continued to the last year of his life and he eventually became Chairman of the Committee. In the course of the same year the Corporation of Wolverhampton invited him to report on the condition of the church of St. Peter in that town, and his elaborate report was published in January 1852 in pamphlet form, with eight small plates reproduced from careful drawings which he prepared specially for that purpose. The most urgent works were at once proceeded with and extended over four years, but much still remained to be done and the restoration was continued at intervals during twenty years.

In the establishment of the Architectural Museum Mr. Christian took a leading part from its first inception, and to him was entrusted the task of making arrangements, financial and otherwise, with Mr. (afterwards Sir) Henry Cole, of the South Kensington Museum, for the formation and exhibition of the collection. When in 1867 the present building in Tufton Street was erected he and Mr. Joseph Clarke were associated as joint architects.

In 1853 were commenced the works of restoration at Carlisle Cathedral which were carried on for nearly twenty years. An incidental result of this work was a connection, professional and friendly, with Dr. Tait, then Dean of Carlisle, continued during his administration of the dioceses of London and Canterbury. Mr. Purday was deputed to superintend the work and resided at Carlisle during the first three years. An interesting experience was the setting out for restoration of the tracery of the great east window; a large, boarded platform was prepared and covered with paper on which he drew a full-size detail carefully measured from the badly decayed stones of the old window. In the restoration of the coloured decoration of the choir ceiling, of which some traces remained, Mr. Christian was associated with Mr. Owen Jones.

As a thank-offering for the cessation of a visitation of cholera, the parishioners of St. Mary's, Bryanston Square, decided to build a new church to be appropriately dedicated to St. Luke the Physician, and a site was procured of somewhat inconvenient form, being deeper from north to south than in the opposite direction. The design was made the subject of a competition, which Mr. Christian won with a plan probably inspired by the church of St. Martin, Ludgate, which occupies a somewhat similar site, though differing from it by the extension of the chancel and the detachment of the tower. The main entrance doorway may have been suggested by the south door of Skelton Church, though in the style of a century later. As an example of the architect's painstaking care in designing, it may be mentioned that three separate designs for the tower were worked out in large perspective drawings, and the one chosen from these was modified somewhat in the competition drawings. An entirely different treatment for the principal front was shown in a carefully drawn large

scale elevation; this was probably intended for a church with the main axis running north and south, and the idea does not appear to have been worked out. The original design included a crypt intended to be used as a school, probably in consequence of a requirement of the competition, but this was abandoned fortunately for the children of the district, and a few years later a three-story school building was erected close to the church and on an almost equally difficult site, which though not fulfilling all the conditions now considered essential was remarkable at the time of its erection for the loftiness of the rooms and the large amount of window surface.



CHURCH OF ST. MATTHEW, CHELTENHAM. GROUND PLAN. EWAN CHRISTIAN, ARCHITECT.

In 1857 the works of restoration at Southwell Minster (now the cathedral) were commenced. The repair of the walls and masonry was entrusted to a resident mason, John Gregory, and his assistant John Cook, a worthy pair, who worked in the spirit of mediæval craftsmen and steadily devoted themselves for eighteen years to the task of making the old structure sound in every respect, during which period they occasionally employed other workers, but only when the nature of the work rendered assistance necessary. When this section of the restoration had been satisfactorily completed, the re-roofing was taken in hand, the pitch being raised to the original angle. This work included the restoration of the conical roof of the Chapter House and of the spires of the western towers, the former of which had been replaced by a roof of very low pitch; the latter had been removed entirely, and a parapet with poor angle pinnacles substituted. In determining the form of these features Mr. Christian sought diligently for evidence as to what formerly existed, and discovered several old engravings and a water-colour drawing ascribed to Turner. The work was carried out by R. Clipsham, of Norwell. When the roof of the porch was taken in hand it was noticed that the old carver who had executed the figure of a bear which formed the apex of the gable, had conscientiously carved the buckle of a strap of its muzzle on the top of the head where it could never be seen from below. The last works carried out before the old minster became a cathedral church were the re-flooring and partial refitting of the choir, executed by Messrs. Cornish & Gaymer, of North Walsham. Some fragments of the thirteenth-century screens were found which enabled an accurate restoration to be made; the old form was therefore reproduced, though the treatment was not a suitable one for execution in wood, being far too reminiscent of masonry.

The little modern church of the parish of St. John Baptist, Kingston Vale, after only twelve years existence proving insufficient for the needs of the

inhabitants, in 1859 Mr. Christian built on a new site the first portion of an unassuming little church which would not have called for special mention were it not for the historic interest which it has since acquired. The completion of the church by the erection of the south aisle was taken in hand in 1874, and the corner-stone was laid in December of that year by a lady who, though not actually a parishioner, had always taken a great interest in the parish. Some time afterwards she was visiting the church attended by her little daughter, and in conversation with the vicar the latter made some

CHURCH OF ST. MATTHEW, CHELTENHAM. EWAN CHRISTIAN. ARCHITECT. Photo. A. G. Tod.

complimentary remark about the child, to which her mother laughingly replied, "Oh, we think nothing of her, she is only a girl." The "girl" is now Queen of England. Though White Lodge was beyond the boundary of the parish, the church was the nearest to it and was attended by the ducal family; the reredos, designed by Mr. Bodley, was erected as a memorial to the Duchess of Teck, the altar cross and candlesticks being given by Princess Mary and her brothers.

A church and vicarage erected at Spitalfields in 1860 may be mentioned as an example of Mr. Christian's skill in adapting the plan of his buildings to the most unpromising of sites and of his disregard of conventional ideas when practical reasons existed for departure from them; the employment of an apsidal west-end in conjunction with a square-ended chancel is probably unique; the treatment of the elevations was inspired by Rhenish work.

In consequence of a report as to the dangerous condition of the tower of Chichester Cathedral, made by the clerk of works engaged on the works of restoration then in progress, the Dean wrote on the 9th February 1861 to request Mr. Christian to make an independent survey and report at as early a date as possible. An appointment was made alternatively for the 19th or 20th, and providentially the earlier date was selected and the survey completed without mishap. The next day the tower fell during a heavy gale about the time at which the inspection would have been in progress if that day had been chosen.

The work of the Ecclesiastical Commission had by this time grown to such an extent that the whole of their premises in Whitehall Place were required for their clerical staff, so that it became necessary for their architect to seek accommodation elsewhere. Shortly before this time he had been engaged on the conversion of the stables and yard in the rear of No. 8 Whitehall Place into offices for

Mr. T. D. Calthorpe, and as these were now unoccupied they afforded an opportunity of establishing an office in convenient proximity to that of the Commissioners.

Soon after the removal to these premises the staff received a notable addition in the person of a young Swede who, having been trained for the profession of naval architecture, came to England to gain a wider experience; failing to obtain an opening he went North and spent some time working for a firm of shipbuilders on the Clyde, where he not only distinguished himself by attaining proficiency in his original profession, but also displayed his nascent powers in another by designing and superintending the erection of a house for the head of the firm. Finding that the designing of buildings to be erected on terra firma gave greater scope for his artistic instincts than could be found in laying down the lines of ships, Axel Herman Haig determined to give up naval in favour of civil architecture, and travelled up to London provided with an introduction to an architect in good practice, who, not having an opening in his own office at the time, obtained for him an interview with Mr. Christian. The latter, immediately appreciating the talent of the young draughtsman, received him into his office, where he remained for about nine years working at first chiefly on the ordinary working drawings, but soon showing so much ability for the more artistic side of the profession and attaining such proficiency in water-colour drawing—an art in which he was self-taught—that his assistance was soon eagerly sought for by some of the leading architects of the day, and Mr. Christian, who had from the first given every facility for the exercise of Mr. Haig's artistic inclinations, now gave him the opportunity of accepting all such commissions while still continuing to work in the office until the outside work had grown to such an extent as to require the whole of his time. Some years after leaving the office he was induced to take up the art of etching, and, again self-taught, commenced to produce the wonderful series of etchings of architectural subjects by which he is now best known.

Another notable member of the staff was Mr. George Birch, F.S.A., who had been an assistant of Sir M. Digby Wyatt; he was one of the founders of the St. Paul's Ecclesiological Society, and was still engaged in Mr. Christian's office when he produced the Old London Street which formed one of the chief attractions of the "Healtheries" Exhibition of 1884.

In 1872 Mr. Christian was appointed by the trustees of the late Misses Walker to advise them in the selection of a design for the new Cathedral of St. Mary to be built in Edinburgh, and after a careful examination of the six sets of drawings submitted in the competition he sent in a lengthy and elaborate report which very clearly and systematically set forth the merits and demerits of each design, and then in summing up made a very definite statement of the order of merit. The committee, however, decided to disregard their assessor's indication, announced their own choice, and declined at first to publish the report. A somewhat heated correspondence partially carried out through the professional papers followed, and at last the committee waived their objection to the publication of the report, stating that they had only desired to suppress it on account of the unfavourable criticism on one of the designs which it contained, and which they feared might give offence to the architect who had submitted it. Their decision as to the selection of the design to be carried out remained unaltered.

In 1874 Mr. Christian entered into partnership with his cousin, Mr. Joseph Henry Christian, and his former pupil, Mr. C. H. Purday, then his principal assistant; it was, however, an entirely private arrangement, all work being still carried out in the name of the senior partner only.

Early in 1876 the restoration of the parish church of Alconbury was commenced. The structure was of considerable interest, having much good work dating from the early thirteenth century up to the late Perpendicular period, but was badly fractured and dislocated throughout. The western tower was about 20 feet square, 46 feet high to springing of spire and 110 to its apex. The lower part up to about 32 feet above the ground was of the early part of the thirteenth century, the remainder somewhat later. The walls of the lower part were covered with a coat of cement which bulged out in places in an ominous manner, and when in the course of the restoration this was removed the walls were found in such a precarious condition that the contractor declined to proceed unless the whole tower was taken down at once. As the upper part was comparatively sound, Mr. Christian was reluctant to agree to its demolition, and after much consideration he decided to support the belfry stage and spire by means of strong timbering while the foundations were rendered safe and the substructure rebuilt. The squire of the place gave *carte blanche* for the expenditure involved, an experienced builder was entrusted with the work, and when the needling was completed, the lower walls were removed and the upper part, about 80 feet in height, remained *in situ* standing on wooden legs until the rebuilt lower stage rejoined it. The whole operation was carried through without any accident, and a brass-plate fixed in the church records the history of the tower and bears a representation of the framing employed.

In 1880, as Vice-President, he became a member of the first Board of Examiners in Architecture appointed by the Institute.

In 1882 was completed the house designed and built for his own residence situated in Well Walk, Hampstead, and called "Thwaitehead" after the family home in Lancashire. Here were carried out

the architect's favourite methods of construction and arrangement, and decorative inscriptions were arranged with much thoughtful care, windows, friezes, and chimney-pieces being adorned with quotations suggested by the use of the rooms or some other circumstance. An old wrought-iron sign bracket and a metal-clad door which had been rejected during the "restoration" (!) of a church in Nürnburg had been picked up during a recent tour and were utilised for the new house—the former to carry an external lamp—the latter for the front entrance door.

MINOR CANONRIES, ST. PAUL'S. EWAN CHRISTIAN, ARCHITECT.

In the adjudication of the competition for the Admiralty and War Offices, Mr. Christian was associated with Mr. Philip Hardwick. They were appointed not as professional assessors, but as professional members of the board of judges, the other members being the Chancellor of the Exchequer, G. J. Shaw-Lefevre, First Commissioner of Works, and Mr. W. H. Smith. The task was no sinecure as the competition was in two stages, in the first of which no fewer than 128 designs were submitted, and the complicated nature of the problem involved may be gathered from the fact that the conditions required the provision of accommodation for about 1,500 persons.

In the Jubilee year of the Institute Mr. Christian was elected President, and during his term of office the inception of the new Charter took place, the Royal Gold Medal was presented to Mr. William Butterfield and Dr. Schliemann, and an unsuccessful attempt was made to open up the east end of St. Paul's Cathedral in connection with the removal of the old school-buildings, in the course of which he addressed letters to the Lord Mayor and *The Times* officially voicing the opinion of the profession on the subject. During the year 1886 Mr. Christian was engaged in the examination of the competitive designs for the cathedral to be erected at Liverpool on a site adjoining St. George's Hall, and his report was published in December. His award was received with some dissatisfaction and adverse criticism in certain quarters, but there can be no doubt that it was the outcome of a most judicious consideration of the several schemes, resulting in an entirely unbiassed honest conviction that the de-

sign placed first was the one which most nearly fulfilled the requirements of the case. Probably nowhere was the decision heard with greater surprise and satisfaction than in Mr. Christian's own office, where there was an almost unanimous feeling in favour of Mr. (now Sir) William Emerson's design, though it was thought almost certain that the principal's well-known enthusiasm for the traditional forms of English mediæval work would prevent his full appreciation of a design which so boldly disregarded them.

In 1887 Mr. Christian received the Royal Gold Medal, and in the same year he was appointed Consulting Architect to the Charity Commissioners. In the latter capacity he undertook to make surveys and prepare reports on the condition of the old parish churches of the City of London. Each report, of which there were more than fifty, included a plan of the church as then existing, an estimate of the cost of putting the fabric into a state of thorough repair, and of the probable annual cost of maintenance, and also an investigation of the manner in which the funds of the church had been administered. The task was by no means a light one, especially for a man of advanced age, but it was entered on with enthusiasm and carried out with vigour with the assistance of two members of his staff, Mr. W. A. Coombs and Mr. P. L. Forbes. The latter writes:

" I never saw such energy in any man of his age. He was over seventy when we were surveying the City churches, and the way he went up and down the ladders was wonderful, and then he delighted to sit in the sun on the parapet of the church to write his report. In the summer-time he was clad in a light overcoat and white hat, with a yellow case for his field-glasses slung over his shoulder, for all the world like some old gentleman going to the races. There he would stand on the pavement, in the middle of the busiest thoroughfares, gazing at the masonry of the towers through his glasses. Then to see him testing the stonework with a heavy sledge-hammer, swinging it with one hand like a man of thirty. I think that of all the work he undertook in his long life, this City church survey was the most remarkable—his wonderful activity both of body and brain, his keen perception into decay and its causes, and his marvellous tackling of churchwardens and their books. He used to sit in the vestries and read over the churchwardens' books for twenty years back to see what moneys they had expended on the fabrics, and we came across many items which aroused in him great wrath.

" The last church we surveyed was St. Dunstan-in-the-West, and on coming into the vestry, when our work was done he said to Mr. Coombs and me: ' Now we have undertaken and finished a great and sometimes dangerous work, so let us thank God for preserving us from accident all the time,' and he uncovered his venerable head with its snow-white locks and offered up a prayer of thanksgiving."

Photo. Shrubsole.

WOODBASTWICK. EWAN CHRISTIAN, ARCHITECT.

In 1889 Mr. W. H. Alexander, who had already entrusted Mr. Christian with several important commissions, instructed him to prepare plans for a gallery to contain the national collection of portraits, the cost of which he proposed to defray. For this important work Mr. Christian made preparation by a diligent study of the most important public and private galleries at home and abroad, with the two-fold object of securing good lighting

for the pictures and economy of space. In the matter of style he considered himself bound by that of the existing buildings of the National Gallery, of which the eastern wing of the new buildings appeared to form the return façade so far as this portion was concerned, but after passing the flank of the old gallery he changed the style to the Italian Renaissance, the main block being inspired by the Florentine palaces and the principal entrance by the façade of the desecrated church of San Spirito at Bologna. Unfortunately the original design was modified in execution, partly in order to keep the cost within the prescribed limit and partly on account of other considerations. The main block was at first intended to have a bold dentelled string-course over the second range of windows, suggesting the division of the interior into its three stories and forming a deep frieze intended to contain large panels occupied by appropriate sculpture; the omission of this feature has

THE HALL, WOODBASTWICK. EWAN CHRISTIAN, ARCHITECT.

resulted in giving the effect of a building consisting of two stories only, of which the upper one is decidedly heavy in treatment. Another feature which has been adversely criticised is the grouping of the two pediments over the principal entrance, also the result of a deviation from the first design in which the raised block over the staircase was finished with a hipped lead roof. In this, his latest and largest important work, Mr. Christian was once more assisted by the companion of his pupilage, Mr. J. K. Colling, who was engaged to prepare full-size drawings of the foliage sculpture and to model the more important portions.

WOLDRINGFOLD. HOUSE NEAR HORSHAM. EWAN CHRISTIAN, ARCHITECT.

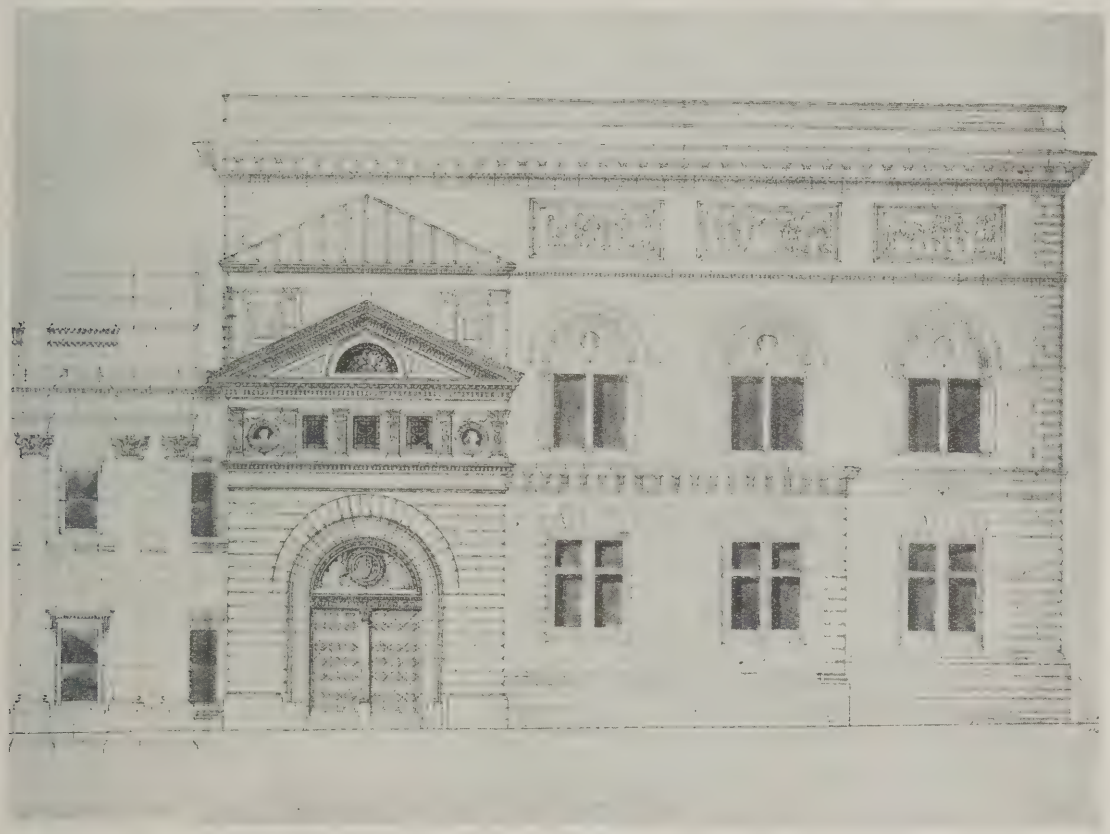
The 15th day of February 1895 was cold and gloomy, a hard frost had continued for several weeks. Mr. Christian travelled to Holloway to make a survey of a new church, and after an interview with the vicar and the architect he proceeded to his own office. Here he received a deputation from the parish of St. Dionis, Parson's Green, in the matter of the completion of the tower, which had been left unfinished when the church was erected; then followed a busy afternoon with reports, accounts, and letters. The next day he caught a severe chill which resulted in erysipelas, and unconsciousness soon followed. In this condition he remained until the following Thursday (21st) when he passed away very quietly. The funeral service took place four days later at Hampstead Cemetery, and was attended by a very large gathering, consisting not only of personal friends but also of many members of his profession, including the President, Vice-Presidents, and several other members of the Institute.

Mr. Alfred Waterhouse, writing to Mr. J. H. Christian, said: "No man of our profession was more honoured, looked up to, and loved . . . no one's enthusiasm ever kept pace with his years like your cousin's." This enthusiasm was, indeed, the keynote to Mr. Christian's temperament, and being supported by careful study and tempered by a well-balanced faculty of judgment it could not fail to be an incentive to diligent work in the office and a source of very real enjoyment during recreation; his appreciation not being limited to any one style or school in art or to any one class of beauty in Nature, his enthusiasm was evoked alike by the archaic Doric temple of Pæstum or the palaces of

Genoa, a rugged Welsh church tower or a graceful campanile, a tiny village church or the ruins of Rivaulx Abbey, which he called "the Queen of the North," an English lane or the Gulf of Salerno, an undulating Sussex down or a rugged Alpine peak, and the same impartiality ruled in all other matters, whatever was good and great, noble or beautiful, was sure to secure his approval wherever it was found.

Strangers sometimes formed a very erroneous opinion of Mr. Christian's disposition owing to the kindly goodwill, easily recognised by all but the most unsympathetic and superficial natures. This was well expressed by Mr. George Richmond, R.A., who testified to his satisfaction with the manner in which the restoration of the old Porch House at Potterne had been conducted by presenting Mrs. Christian with a sketch-portrait of her husband, in which the artist said that he had endeavoured to express "the grace and sweetness" of his model.

For recreation he needed very little beyond that afforded by his frequent journeys in the course of



NATIONAL PORTRAIT GALLERY. PART OF ORIGINAL EAST ELEVATION. EWAN CHRISTIAN, ARCHITECT.

terse and abrupt manner in which he often spoke when conversing on matters of business, and some people thought him opinionated because of the positive and forcible manner in which he was wont to state his views on any subject under discussion; this was, however, far from being the case, he was positive only because he was conscious that his opinion was the result of a ripe experience, and often also of a special study of the question, which made him feel very sure of his ground, and in the rare instances in which his view proved to be mistaken no one could be more ready than he was handsomely to acknowledge the fact. Beneath the brusque surface manner was always the undercurrent of business and by his annual holidays usually spent in travel abroad. He was a diligent reader of works of a serious and thoughtful tendency, numbering among his favourite authors Francis Bacon and George Herbert. His Sundays were always kept entirely free from business cares, and whenever possible he arranged his circuits so as to allow of returning home at the end of each week in order to avoid absence from his post in the Sunday school, where he laboured first as teacher and afterwards as superintendent for thirty-five years. Probably, his only hobby in the ordinary sense of the word was the somewhat unusual one of measuring ancient yew trees in order to estimate

their age, and when staying in the country he often surprised his host by undertaking a long walk, sometimes after or before a hard day's work, on hearing of a specimen reputed to be of venerable age.

The list of Mr. Christian's works given in the appendix would form a very reputable record of the labour of a long and strenuous life, but it is only a selection. The record at the time of his decease is approximately as follows :—

New churches	90
Restoration of churches	400
Restoration of chancels for the Ecclesiastical Commissioners	880
Parochial and mission halls	10
Episcopal and capitular residences	40
Clergy houses	380
Schools	80
Private residences	120
Commercial buildings	20
Other works	20
	2,040

In addition to the above there were, of course, many cases in which drawings were prepared for works which were not carried out. There were also 14 surveys and reports on cathedral fabrics, 54 surveys and reports on the City churches, many competition adjudications, including those for Edinburgh and Liverpool Cathedrals and the Admiralty and War Office ; and a large number of reports on the plans submitted for the approval of the Ecclesiastical Commissioners, probably amounting to over 9,000. The labour involved in the examination of these drawings was greatly increased by the circumstance, which Mr. Christian took pains to make known as widely as possible, that he was willing to make a preliminary examination while they were in pencil so that any necessary modifications could be made before they were inked in and tinted, an arrangement which was much appreciated and very generally taken advantage of.

It is obvious that such an amount of work could not have been effected, even by the most diligent application, unless aided by careful organisation and economy of time. These considerations were especially observed in the arrangement of the numerous journeys necessitated not only by his own practice but also by the surveys of churches, clergy houses, &c., for which grants were made by the Ecclesiastical Commission and Lichfield Diocesan Society. A group of cases was selected so situated that they could be visited in succession, and arrivals and departures from each place were accurately timed to allow of ample but not excessive time for the work required, and the railway journeys were utilised for drafting reports or specifications and for the examination of specifications on which he had to report. He had a quick apprehension of the conditions involved by the special circumstances of each commission entrusted to his care, and great skill in evolving a plan which satisfied them. He would begin by taking any piece of paper which came to hand and sketching on it the first rough idea of plan and elevation very faintly in pencil ; alterations and amendments followed rapidly until the result appeared an unintelligible confusion of crossing lines, but all the time the idea was taking form in his mind, and when at last the initial difficulties were mastered he laid aside the pencil and with a quill-pen cleared out the correct lines and added the principal dimensions. The scheme was then ready to be plotted out by an assistant to scale, but every subsequent stage of the drawings was carefully watched over and superintended. It has already been mentioned that Mr. Christian's appreciation of good architecture was not limited to any particular style, and the same may be said of his design. Wherever he had a free hand in this respect he chose the style which appeared to him best suited for the purpose of the proposed building ; and so well was his mind stored by wide study of good examples that whatever style was selected it was correctly and ably rendered. In the great number of works of restoration in which he was engaged this power was especially valuable. He was unusually resourceful in the matter of planning, whether it was a question of designing a new building for difficult requirements or an awkward site, or of remodelling an existing structure. A good example of the latter case was afforded by his treatment of Burcote House which he enlarged for the Dowager Countess of Crawford. The old house, which had been the residence of Jabez Balfour, had an unusually confused plan, and the internal arrangements were unworkable and mean in appearance. After the alterations were carried out the plan became simple and the effect dignified, owing mainly to a spacious corridor ingeniously formed right through the labyrinth of old passages, with much less disturbance of old work than anyone would suppose from its appearance, which suggests that the whole of this portion of the house must have been entirely rebuilt.

The keynote of Mr. Christian's plan was always the introduction of the maximum amount of sunlight, a point to which he had always attached the first importance, though in the early years of his work its value was not so generally allowed as at present. He delighted in providing what he called a " sun-trap," some projecting bay or window in a canted angle to admit a few rays into a room which without it would, from its aspect, have been deprived of them, and whenever possible arranged that every room should receive direct sunlight during some part of the day. The two other principal conditions which ruled his design were sound construction and suitability for the intended purpose. In a recent conversation with the vicar of a poor South London parish which was saddled with a lofty imposing church, rather unworkable and costly to keep up, he referred to a neighbouring mission church built by Mr. Christian, which was

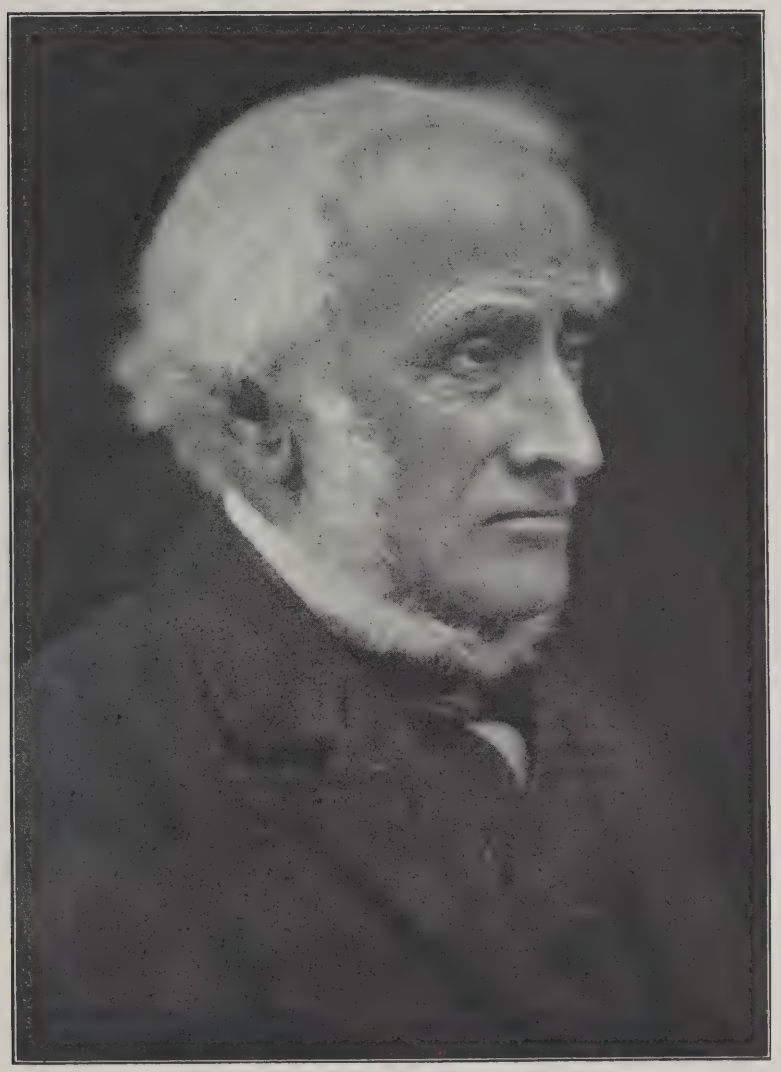


Photo. H. H. Hay Cameron.

Yours faithfully
Ewan Christian

of simple design and modest height, and said, "If only we had a church like that all would be well."

Even apart from economical considerations Mr. Christian had a decided preference for simplicity, though he realised that it would not always satisfy clients' wishes. When one of his assistants had set up the elevation of the large and almost featureless tower of a Welsh church which was about to be restored, he commented on the grand effect of the tower itself, but added that the elevation was not calculated to carry off the premium in a modern competition. In a letter written during a holiday tour, in describing Verona he wrote: "The great church of San Zeno has a grand tall tower of brick and marble, which was more than one hundred years in building; in the lower part it is quite plain, but at the top it has two tiers of belfry windows and a fine projecting cornice. There are two such towers in the city, the other being at the Municipal buildings, and more than 300 feet high. I can fancy what a fuss would be made in our country if an architect were to go on building quite plain for over 200 feet before he put in any ornament, except quite at the base; people would say, 'How bare and ugly it is!' and yet these great architects knew what they were about, and everybody allows that the result is beautiful. They look so grand and dignified. I delight in them."

Mr. Christian united to the artistic and practical faculties an uncommonly able business capacity and a courteous painstaking devotion to his clients' interests which enabled him to preserve the most cordial relations with clients of very varied and opposite shades of opinion in religion and politics, but without sacrificing in the slightest degree his independent position and personal convictions. His feeling of responsibility for every detail in the carrying out of his work would be regarded by many architects as almost quixotic; if a builder shirked his duty in respect of making good defects arising from a blunder or scamping, Mr. Christian would engage a more reliable firm to put matters right at his own expense, and in at least one case when an unreasonable client had continued his demands and complaints until the contractor refused to do any more for him, Mr. Christian sent to his client a cheque for a considerable sum with a request that he would use it in having the work altered to his own satisfaction, and trusting to his honour as a gentleman that it should be applied to this purpose only. But, happily, dissatisfied clients were few in proportion, and expressions of gratitude far more usual than complaints. A gentleman writing some fifteen years after the completion of his own residence, referring to a friend whom he had recently introduced as a client, said, "R —— seems to have taken to you very kindly, and personal confidence is a great point in the relations which I hope are going to be established between you—I felt sure he would. I like my own house as much as possible; it is as pretty as if it were not comfortable, and as comfortable as if it were not pretty; and the two together is all one wants—except an occasional visit from the architect."

To all who worked in his office Mr. Christian was a true friend, ever ready to help or advise in any difficulty or to sympathise in any trouble. To the juniors he was always ready to give the benefit of his experience and would tell them how best to study, to measure old work, arrange a holiday, or preserve their health, and tell it in such a terse emphatic way that his advice was seldom forgotten. To those who had passed beyond the student stage he was most kind and considerate in affording facilities for carrying out any work on their own account which they might secure. It was for many years Mr. Christian's custom to attend service at Westminster Abbey on the morning of New Year's Day, accompanied by all the members of his staff, and on the same evening to entertain them at dinner at his residence. The social function was discontinued owing to several circumstances, but the visits to the Abbey were continued to the last.

In conclusion, I wish to express my sincere thanks to Mrs. and Miss Christian for their kind assistance and for supplying some of the illustrations; to Mr. Gaymer for photographs of some of Mr. Christian's houses; and to those from whose letters I have made extracts in the course of this memoir.

LIST OF PRINCIPAL WORKS.

1841. Marylebone Savings Bank.
1843. Church of St. John, Hildenborough, Kent.
House in Wigmore Street, W.
1844. Restoration, St. Nicholas' Church, Austrey, Warwickshire.
1845. Vicarage at Preston, Lancs.
1846. Church of St. Thomas, Douglas, Isle of Man.
1847. Commercial Bank, Douglas, Isle of Man.
Almshouses, Sapcote, Leicester.
1848. Restoration, Church of St. Mary, Scarborough.
1849. Church, Bishops Wickham, Essex.
Church of St. Bartholomew, Roby, Lancs.
1850. Church at Laxey, Isle of Man.
1851. Church of St. Stephen, Tunbridge.
Church of St. John, Kenilworth.
Church of Holy Trinity, Oakengates, Salop.
Church of St. Maughold, Maughold, Isle of Man.
Restoration, Church of St. Peter, Coggershall.
1852. Restoration, Church of St. Peter, Wolverhampton, commenced.
1853. Restoration of Carlisle Cathedral, commenced.
Christ Church, Forest Hill, Kent.
1854. Church of St. Luke, Marylebone.
Church of St. James, Leyland, Lancs.
1855. Church of St. Luke, Tiptree Heath, Essex.
English Church at Chamouni.
1856. Carlisle Canonry.
St. Asaph's Canonry.
Picture Gallery, Gopsall Hall, for Earl Howe.
1857. Restoration of Southwell Minster, commenced.
1858. Norwich Palace (partial Rebuilding).
Llandaff Palace Chapel.
Church of St. Peter, Rochester.
Church of St. Peter, Hamsey, Sussex.

1859. Llandaff Canonry.
Church of St. John Baptist, Kingston Vale, Surrey.
Christ Church, Winchester.
Restoration, Church of St. Mary the Virgin, Horncastle.
1860. Gloucester Palace.
Church and Vicarage of St. Stephen, Spitalfields.
Church of St. James, Tunbridge Wells.
Church of St. Paul, Swanley, Kent.
Restoration, St. Peter's, Monk Soham, Suffolk.
1861. The Deanery, Llandaff.
English Church, Carlsbad.
1862. Church of Holy Trinity, Little Amwell, Herts.
English Church at Homburg.
Restoration, Church of St. Mary Magdalen, Eardisley, Hereford.
Restoration, Church of St. Mary the Virgin, Market Lavington, Wilts.
Loughrigg Brow, Ambleside, House for Canon Bell.
1863. Bishopthorpe Palace (Additions).
Restoration, Church of Holy Trinity, Bosham, Sussex.
Restoration, Church of St. Sampson, Cricklade, Wilts.
Restoration, Church of St. Clement, Fiskerton, Lincoln.
Restoration, Church of St. Leonard, Hythe, Kent.
Restoration, Church of St. Mildred, Tenterden, Kent.
1864. Bangor Canonry.
Church of Holy Trinity, Lyonsdown, Herts.
Church of St. Paul, Tongham, Surrey.
Church of St. Andrew, Farnham, Surrey (Restoration of Tower).
Restoration, Church of St. Mary, Kempsey, Worcester.
Restoration, Church of St. Mary, Little Brickhill, Bucks.
Restoration, Church of All Saints, Hoby, Leicester.
East Lavington Manor, for Right Hon. E. P. Bouverie.
1865. Church of All Saints, Viney Hill, Gloucester.
Restoration, Church of St. Mary, Cheltenham.
House for Sir F. Grey, Sunningdale.
House for Sir John Shaw-Lefevre, Ascot Wood.
1866. Church of St. John Evangelist, Castleside, Durham.
Church of Holy Trinity, Folkestone.
Church of All Saints, Tilford, Surrey.
Restoration, Church of St. Margaret-at-Cliffe, Kent.
Restoration, Church of St. Patrick, Patrington, York.
Restoration, Romsey Abbey.
Restoration, Church of St. Mary Magdalen, Thorington, Essex.
Restoration, Church of All Saints, West Camel, Somerset.
Abbots Wood, Gloucester, for A. Sartoris, Esq.
1867. Greenfield Church, Holywell.
Church of the Ascension, Melton Ross, Lincoln.
Christ Church, Stoke-next-Guildford, Surrey.
Restoration, Church of St. Thomas, Stanhope, Durham.
Restoration, Church of St. Peter-ad-Vincula, Wisborough Green, Sussex.
Restoration, Church at Upton, Notts.
1868. Church of St. Mary, Carlisle.
Restoration, Church of St. Mary, Eastbourne.
Restoration, Church of All Saints, East Meon, Hants.
"The Armory," Southwark, for Messrs. McCorquodale & Co.
1869. Christ Church, Gedney Drove End, Lincoln.
Church of St. John the Evangelist, Langrish, Hants.
Restoration, Church of SS. Mary and Eanswith, Folkestone.
Restoration, Church of St. Faith, Kilsby, Northants.
Restoration, Church of St. Tyver, Lamphey, Pembroke.
Restoration, Church of All Saints, Terrington, Yorks.
1870. Exeter Canonry.
Restoration of Lollards and Morton Towers, Lambeth Palace.
Church of Holy Trinity, High Hurst Wood, Sussex.
Church and Vicarage, St. Mark, Leicester.
Restoration, Church of All Saints, Holbeach, Lincoln.
Restoration, Church of St. Peter, Hackness, Yorks.
Restoration, Church of St. Mary the Virgin, Portbury, Somerset.
Restoration, Church of SS. Peter and Paul, Sturton-en-le-Steeple, Notts.
Mayfield, for Lord Penzance.
1871. Church of St. James, Coundon, Durham.
Church of St. Benet, Stepney.
Christ Church, Weymouth (Melcombe Regis).
Church at Murrow, Cambridge.
Restoration, Church of St. Mary the Virgin, Potterne, Wilts.
Restoration, Church of St. Mary the Virgin, Prittlewell, Essex.
Restoration, Church of St. Mary, Swine, Yorks.
Rebuilding Church of St. Michael, Rocester, Staffs. (retaining Ancient Tower).
1872. Manchester Palace, Chapel, Examination Rooms, and Gateway.
Church and Vicarage of All Hallows, Bow Common, Bromley, E.
Church of St. Werburgh, Hoo, Kent.
Church of All Saints, Orpington, Kent.
Church of St. John Baptist, Paignton, Devon.
Economic Assurance Office, Blackfriars.
"The Highlands," Gloucester, for Mrs. Frith.
1873. Upnor School Chapel.
Restoration, Parish Church, Horning, Norfolk.
Industrial Dwellings, Barretts Court, Marylebone.
Schools, St. Mark's, Leicester.
Restoration of Porch House, Potterne, for G. Richmond, Esq., R.A.
1874. Church of St. Paul, Clerkenwell.
Restoration, Church of St. James, Castle Acre, Norfolk.
Restoration, Church of St. Michael, Heighington, Durham.
Restoration, Church of St. Lawrence, Norwell, Notts.
Remodelling Church of St. James, Kennington, S.E.
St. John's College, Highbury, Dining Hall.
1875. Christ Church, Stepney.
Church of Holy Trinity, Sunk Island, Yorks.
Chapel-of-Ease (St. Saviour), Tunbridge.
Restoration, Church of St. Andrew Undershaft, E.C.
Restoration, Church of SS. Mary and Nicholas, Leatherhead.
Restoration, Church of All Saints, Sandon, Herts.
Restoration, Church of St. Mary the Virgin, Wethersfield, Essex.
Restoration, Church of St. Nicholas, Dersingham, Norfolk.
Restoration, Church of St. Mary, Westmill, Herts.
Church of St. John Baptist, Windlesham, Surrey (New Church, retaining Old Church as South Aisle).
1876. Church of St. John the Evangelist, Deepcar, Yorks.
Church of Holy Trinity, Scarborough.
Restoration of Church of SS. Peter and Paul, Alconbury, Hunts.
Restoration of Church of St. Bartholomew, Much Marcle, Hereford.
Restoration and Enlargement, Church of St. Barnabas, Swanmore, Hants.

1877. Church of St. Matthew, Cheltenham.
Church of Holy Trinity, Dalston, N.E.
Church of St. Antholin, Nunhead, S.E.
Restoration, Church of St. Mary, Brampton, Hunts.
Restoration, Church of St. Mary, Kempley, Glo'ster.
Restoration, Church of SS. Peter and Paul, Tunbridge.

1878. Minor Canonries, St. Paul's.
Chapel, Selsdon Park (Bishop of Rochester).
Church of St. Mark, Holbeach Marsh, Lincoln.
Church of Holy Trinity, Lamorbey, Kent.
Church of St. Antholin, Stepney, E.
Restoration, Church of the Holy Rood, Holybourne, Hants.
Restoration, Church of St. Mary, Raskelf, Yorks.
Restoration, Church of St. James, Ruscombe, Berks.
Restoration, Church of St. Nicholas, Sevenoaks.
Restoration, Church of St. Mary, Upleadon, Glos.
Restoration, Church of St. Cuthbert, Wells.
Broadwell, Stow-in-the-Wold, for Mr. Piers Thursby.

1879. Church of All Hallows, Poplar.
Restoration, Church of St. Dunstan, Canterbury.
Restoration, Church of St. Peter, Pitton, Wilts.
Restoration, Church of All Saints, Wouldham, Kent.

1880. Salisbury Deanery (Alterations).
Restoration, Church of St. Lawrence, Foxton, Cambridge.
Restoration, Church of St. Mary, Minster-in-Sheppey.
Restoration, Church of Holy Trinity, Poynings, Sussex.
Restoration, Church of King Charles, Tunbridge Wells.

1881. Church of St. Stephen, Upper Holloway, N.
Christ Church, Hampstead (Enlargement).
Restoration, Church of St. Andrew, Oving, Sussex.
School at Folkestone, for the Rev. A. L. Hussey.
St. Andrew's Convalescent Home, Folkestone.
Lillingstone Dayrell House, for A. J. Roberts, Esq.
House at Woldingfold, for C. B. Godman, Esq.

1882. Chapel at St. John's College, Highbury.
Restoration, Church of St. John Baptist, Chaceley, Worcester.
Restoration, Church of St. Peter, Duxford, Cambridge.
Restoration, The Oaks Church, Leicestershire.
Restoration, Skelton Church, York.
Offices of "Whitaker's," Warwick Lane, E.C.
Holbrook Hall, Suffolk, for Jas. Mitchell, Esq.

1883. Church of St. Peter, Limehouse.
Restoration, Church of St. Nicholas, Hail Weston, Hants.
Restoration, Church of Holy Trinity, Llanddew, Brecon.
Restoration, Church of St. Mary, Westwell, Kent.
St. John's College, Highbury, Gatehouse.

1884. Church of St. Barnabas, Kentish Town.
Church of St. Dionis, Parson's Green, Fulham.
Restoration, Church of St. Michael, Halam, Notts.
Restoration, Church of St. Cuthbert, Kirkby-in-Furness.
Restoration, Church of St. Mary, Haverfordwest.
Restoration, Church of St. Andrew, Tilmanstone, Kent.
Restoration, Church of St. Mary, Woodnesborough, Kent.
Restoration, Church of St. Michael, Wilmington, Kent.
Restoration, Church of St. John Baptist in Bedwardine, Worcester.
Castle Malwood, for Sir W. V. Harcourt.

1885. Liverpool Palace (Additions).
Church of St. Paul, Longridge, Lancs.
Restoration, Church of St. George, Arreton, Isle of Wight.
Restoration, Parish Church, Bishopstone, Sussex.
Restoration, Church of St. George of Tombland, Norwich.
Messrs. Cox's Bank, Charing Cross.
Worcester Cathedral School and Restoration of the Ancient Refectory in connection.

1886. Lincoln Palace (partial Rebuilding).
Church of St. Thomas, Heigham, Norwich.
Church of St. George, Netherfield, Notts.
Restoration, Parish Church, Hemel Hempstead.
Restoration, Church of St. Mary, Tansor, Northants.
Restoration, Church of St. John Baptist, Tisbury.
Reseating, Church of Holy Trinity, Marylebone.
Woodbastwick House, Norfolk, for A. Cator, Esq.

1887. Restoration, Church of St. Peter, Inkberrow, Worcester.
Restoration, Church of St. Mary, Nonington, Kent.
Restoration, Church of St. Bartholomew, Tong, Salop.

1888. Chapel, St. Andrew's Convalescent Home, Folkestone.
Church of St. Thomas, Finsbury Park.
Church of St. Mary Magdalen, Harlow, Essex.
Church of Peaslake, Surrey.
St. John's College (Cambridge) Mission, Lady Margaret Church, Clergy House, and Hall, Walworth.
Restoration, Church of SS. Anne and Agnes, Gresham Street, E.C.
Restoration, Church of St. Margaret, Darenth, Kent.
Restoration, Church of St. Mary-in-the-Castle, Hastings.
Restoration, Church of Yaverland, Isle of Wight.
Convalescent Home, Seaford.

1889. Lichfield Palace (Additions).
Church of the Martyrs, Leicester.
Restoration, Church of St. Mary Woolnoth, E.C.
Hotel, Saunton Sands, Devonshire.

1890. National Portrait Gallery.
Restoration, SS. Peter and Paul, Cudham, Kent.

1891. Westminster Choir House.
Restoration, All Saints', Cottenham, Cambs.
Restoration, St. Michael's, Mickleham, Surrey.
Restoration of Tower, Church of St. Tibieu, Llandebie, Carmarthen.
Restoration of Old Chapel, Dulwich College.

1892. Church, Curbridge, Hants.
Bishopthorpe Palace, York, Restoration of Chapel.
Restoration, Church of St. Martin Ludgate, E.C.
Restoration, Church of St. John Baptist, Stanbridge, Beds.
Restoration, Church of St. Mary, Willesden.

1893. Church at Ballasalla, Isle of Man.
Church of St. Olave, Stoke Newington, N.
Restoration of Tower, Church of St. George, Newcastle-under-Lyme, Staffs.
Church of St. Mary, Cowes (Deep Underpinning).

1894. Church at Cheriton, Kent.
Church at Lock's Heath, Hants.
Church at Sleights, Yorks.
Church of St. Paul, Woking.
Restoration, Church of St. Michael Paternoster Royal, E.C.
Restoration, Church of St. Mary, Whitfield, Kent.
Restoration, Canon's Gateway, Chichester.
Burcote House, Oxon., Enlargement for the Dowager Countess of Crawford.

REVIEWS.

ENGLISH DOMESTIC ARCHITECTURE.

English House Design: a Review. Being a Selection and Brief Analysis of some of the Best Achievements in English Domestic Architecture from the 16th to the 20th century. By Ernest Willmott [F.] La. 8o. Lond. 1911. Price 10s. 6d. net. [B. T. Batsford, 94 High Holborn, W.C.]

Of the making of books on English domestic architecture there appears to be no end. The latest, or at any rate one of the latest, to appear is "English House Design," by Ernest Willmott. The author at the outset disarms criticism from the point of view of the architect by stating that the book is intended for those who are not familiar with, or do not possess, the architects' library, but whose interest in the subject rouses a desire to learn more about it. From this standpoint the work is well adapted for its purpose, indicating as it does the result to be aimed at and, in some instances, to be avoided.

After considering the treatment of the house in relation to its site, the author proceeds to lay down some general rules concerning the principles of house design, to trace the development of the old English house, and finally to apply the general principles to the examples selected for illustration.

In connection with the question of the setting of the house, one may perhaps be allowed, in passing, to express a regret that the ugly expression "lay out" should occur with such frequent reiteration.

The illustrations, which cover a wide range, are in many instances reproductions from other works of a similar nature and are generally well chosen.

While such examples are left to us from the past, and while such modern work as is here depicted is being produced, one cannot but feel that the outlook in regard to English domestic architecture is a hopeful one. HERBERT PASSMORE [*A.*].

THE ENGLISH STAIRCASE.

The English Staircase: an Historical Account of its Characteristic Types to the End of the Eighteenth Century. By Walter H. Godfrey. Sm. 4o. Lond. 1911. Price 18s. [B. T. Batsford, 94 High Holborn, W.C.]

It must always be difficult to take a portion of what is essentially an indivisible whole and make of it a whole sufficient unto itself. This is the task Mr. Godfrey has set himself in "The English Staircase," and it will be admitted by all who are acquainted with the subject in any degree that he has accomplished this task with a full measure of success. As the author remarks, the staircase is necessarily the key to the planning of a large part of the house: indeed, he might have improved upon this by calling the staircase the newel of the house, for the word is but the French "noyau"—the stone or core of a fruit—under a thin disguise.

This being so it is almost a pity that he does not give us a fuller account of the evolution of the staircase, or rather of the changes in planning which separate the now demolished Buckhurst Place with its three well-staircases, five turret-stairs, and any number of apparently disconnected flights, from the typical Elizabethan mansion in which the whole art of the staircase builder has been concentrated upon one sublime effort. But considered as a collection of the finest examples to be found in England and Scotland, the book is deserving of all praise, and reflects credit upon author and publisher alike, who have evidently spared nothing in their desire to make the examples representative of all that is best. The quality of the illustrations is such as we have learnt to expect in books bearing Mr. Batsford's name at the foot of the title-page.

ROBERT W. CARDEN [*A.*].

ARCHITECTURE AND THE STAGE.

An Exhibition of some Drawings and Models for "Macbeth" and other Plays by Edward Gordon Craig at the Leicester Galleries, September 1911.

IF an architect were asked whether he thought that he was able to prepare sketches for stage scenery, the chances are that he would reply in the affirmative. He would have no doubt that he could suggest something that would be better than much of the scenery that is in general use. Certainly, if it were a matter of architectural setting of historical interest, he would approach the task with gladness and without misgiving. He would, at least, make a very good attempt to design a garden set, although he might not feel equal to the representation of a landscape. In fact, the mental equipment of an architect is such that he should be able to produce, for many of the scenes of most plays, drawings and models which would have excellent qualities. They would be based upon clearly conceived plans; they would be structurally reasonable; their arrangement would comply with the limitations and requirements of the stage; a sense of actual human scale would be maintained; in colour scheme they would not be bad, and they might be good; their perspective would be true, and their architectural masses, features, and details would be strongly characteristic of the period and locality to which they belonged. With such qualities, if they did not inspire, they would certainly convince.

It is not implied that architects should become scene-painters, but it is presumed that they are particularly interested in the great advance which has been made in the design of stage scenery during recent years in London and that they will welcome further progress. To Mr. E. Gordon Craig, the son of an architect, they look for a definite lead in the right direction, and they are well qualified to be members of the discerning and discriminating public to which his efforts are addressed.

As was to be expected, a talent for abstract composition is shown beyond doubt by the work at Mr. Craig's exhibition. His relative tone values and his suggestion of mystery are wonderfully good.

His colour is delightful. In each of his designs he has avoided superfluous elements which would distract attention from the characters of the drama, and there is in them a balance of strength and delicacy that is charming. Both drawings and models are placed so as to be shown to advantage.

It may be doubted, however, whether his work, as a whole, is successful. What is the function of the scene painter? What is the use of scenery? It is not really necessary to the delivery of an author's writings; but the author and the player will avail themselves of scenery (if it is available) as readily as they will adopt the use of costumes and make-up. The make-up will help the player to express the age and character which the author intended, the costumes will help to indicate quality and calling, and the scenery will help to represent surroundings, while together they will help to establish time and place. So far as they help the story, they will be good, and the function of the designer of scenery is thus to help the story.

As the curtain is rung up, a scene may be disclosed which will give the spectators many ideas with which the action of the play is concerned—a scene which will put them into a frame of mind that will enable them the better to understand that which is to occur and will keep them reminded of circumstances which influence the plot. Some of Mr. Craig's drawings do not indicate scenes which would do anything of the kind. On the contrary, they would puzzle all observers and drive them in perplexity, or in a spirit of controversy, to repeated reference to the printed programme in search of some guidance as to where on earth or elsewhere the scenes were to be supposed to be. It is not apparent, on examining one of his studies, whether it is intended for Dunsinane or Elsinore, Italy or Egypt. The general impression given by many of them is that they are sketches from S. Gemignano. They are no more than sketches, and it is not clear whether the designer has left his work at that stage as a matter of taste, or on account of an inability to continue without losing more than he could gain. It may be that he has reserved more precise definition and development of his schemes for consideration at a larger scale. In one case he has supplied a detail, but it only serves to enforce the conclusion that something is wanting in Mr. Craig's architecture. There is not exactly a lack of sympathy with architectural expression, but there is an absence of architectural knowledge.

Perhaps the artist has not worked hard enough at the study of architecture, and perhaps he imagines that he can evade the hard work which architecture demands by putting into his compositions walls and towers that are devoid of architectural character—non-committal and therefore quite safe—or by just leaving out buildings altogether. He exhibits a sketch for the Forum scene in "Julius Cæsar," which, in the absence of any evidence to the contrary, might be in the Far East. The catalogue of the exhibition contains notes by Mr. Craig, in explanation and defence of his conceptions. Referring to his Forum scene he writes: "There is no example of Roman architecture here, because I could find none in Shakespeare." Mr. Craig should seek again. Compare his extraordinary assertion in this case with that which refers to "Macbeth," Act 1, sc. 5: "As former stage managers have placed Lady Macbeth in this scene by the side of a fire, which makes things a bit lurid, I thought perhaps people would be glad to get away from that. So I conducted the lady to her bedroom . . . I wonder if I did wrong!" There is certainly no bed in that scene of Shakespeare. Compare the two drawings and it will be seen that the picture of the bedroom clearly depicts a bedroom because there is a bed, but that the picture of the Forum clearly does not depict the Forum because there is no Roman architecture.

To scenery that is helpful, architecture is valuable; on occasion it is indeed essential. It serves as an international code—a beautiful code — whereby geographical, historical, and social facts and the atmosphere which they create may be suggested to an audience. Its value is great and it is growing. The public has acquired, directly and indirectly, by means of photography, travel, guide-books and the like, a general education in the characteristic styles and periods of architecture and in the human conditions from which they arose. A playgoer of "the middle class" (to which class Mr. Craig refers) knows the distinguishing features of architecture, when he sees them, and if they are wrongly presented or omitted he knows that also. It will not do to represent to him a Scotch castle having a modern French plan. Of course, he may not be able to make architectural and archæological compositions for the stage; that is a problem for the designer of stage scenery. Mr. Craig has not solved that problem, he has disregarded it.

He has disregarded, too, an important fact that applies to the modern stage. It is this, that a set of scenery which is intended to occupy the whole width of a stage must form a horizontal composition. The tendency to-day in the design of theatres is to arrange for a maximum width for the stage. Depth can be painted, and height is restricted on the grounds of economy, convenience, and safety. Again, the part of the scene which counts—whatever may be the form and proportion of the proscenium arch—the part which is visible from every seat in the house—is a horizontal strip above the footlights. To an artist of Mr. Craig's ability this fact should not be a handicap but simply an initial direction, yet the greater number of the designs exhibited have a vertical feeling, and their effect depends upon their verticality. The exhibitor admits in his note to his first exhibit that "you cannot get such a height on the actual stage—in London." To make a design the principal dimension of which renders it useless for

the space which it is intended to fill, surely does no good, and to blame the theatres of London does not mend matters. Such work cannot be seriously considered as practical design. Viewed as an upright decorative panel, it is very nice, but as it is not intended as such, it fails. The bedroom scene above mentioned is composed in the vertical sense, but in that case the shape is reasonable, for it "is designed to take up a very little room on the stage." That is certainly a good device, because a small vertical scene in the middle of the stage would form a fine contrast with horizontal scenes that would be more general, and further it would meet one of the greatest difficulties with which a scenic artist has to contend, namely, that of obtaining a distinction of scale and of actual size between interiors and exteriors.

No! Mr. Craig's work—with all its cleverness, all its merit—is disappointing to architects. Apparently, he has found out that architecture is a lot more difficult than it looks, and that the simplest architecture, which appears to be the easiest, is the best and is also the most difficult to achieve. He has achieved simplicity, but he has not achieved simple architecture. Simplicity in itself is not enough; it is only a negative virtue.

J. Nixon Horsfield [*A.*].

ARCHITECTS AND THE GARDEN.

EACH generation has to face the difficulty of making the English home more charming than it was before. The nearest approach to a paradise on earth, Sir Aston Webb once remarked, is a beautiful garden on a beautiful day. Yet the most beautiful garden is incomplete without the house, just as a beautiful house—at any rate in the country—is incomplete without its beautiful garden surrounding it. It seems to follow that the producers of the house and the garden should work hand in hand from the commencement. The following is extracted from a very suggestive article on the subject which appeared in *The Times* of the 12th August last:—

There is at the present time some discord between architects and gardeners in the garden. Architects, when they have built a house, like to design a garden to suit it. They have the old Italian notion of a garden, that it is an annexe to the house and should be dominated by it; and often they have the Italian indifference to flowers. The gardener, who wishes to grow flowers in his garden, suspects the architect of knowing very little about them, and often with good reason. He asks himself whether the architect's plan will suit his horticultural purposes, and he comes to the conclusion it will not. Very likely he wants a rock-garden, which seems to the architect a mere chaos of plants and stones which he cannot fit into any orderly design. Therefore the architect suggests that, if he must have it, he should place it in some out-of-the-way spot which the gardener knows is quite unsuited for the purpose. Or the gardener wants a herbaceous border where soil and aspect are best; but this is just where the architect wishes a yew hedge to be planted. Hence there is friction between them, and the gardener determines to make his garden in his own way, while the architect goes off feeling that his house is going to be spoilt by incongruous surroundings. He should remember, of course, that the gardener must be allowed to do what he likes with his own, and that he cannot expect an Englishman to have Italian ideas; but at the same time it is a pity that there should be this difference between the artist's notion of a garden and the gardener's, for the result is that some of our gardens are chaotic and others are too ostentatiously artistic. They look as if they had been designed according to an arbitrary pattern, and as if their owners took no further interest in them.

A garden can only be beautiful if it is at the same time designed to suit the house and also expressive of the natural tastes of its owner. If it is formal only because formal gardens are supposed to be artistic, it is sure to be as dull as the show gardens of the past with their regiments of bedded flowers. In fact, no one can have a beautiful garden unless he has some artistic power of his own. It is the same with gardening as with dress or furniture. It is not enough to have the money to buy fine things, you must also buy them because you like them; and you must know how to use them so as to express your own taste, otherwise your money will be merely wasted. Therefore the garden of the fanatical horticulturist, if he really enjoys himself in it, is likely, however chaotic, to be less dull than the formal garden which does not express the taste of its owner.

But at the same time it is pretty sure not to be beautiful, for the horticulturist's aim is not to have a beautiful garden but to grow fine or difficult plants; and the more eager he is the more ready he will be to sacrifice everything to that. His garden is his alone, planned to suit his own particular hobby, which is scientific rather than æsthetic, and not likely to delight or interest any one who does not share that hobby. On the other hand, the idea behind all good garden design is that a garden should be a pleasant place, not merely for horticulturists but for every one; and formal designs can only be delightful and interesting when they are inspired by this idea. As in every other art, pattern in gardening should always have a meaning, and merely decorative gardening is as unsatisfying as merely decorative painting or versified words without sense. Architects, when they set to work to design gardens, sometimes forget this. They react too violently against the old landscape-garden ideas, which they associate with hideous Middle-Victorian houses; and they regard the formal garden rather as a protest against a bad kind of art that has gone out of fashion than as a good kind of art which is itself founded on reason and the natural tastes of men.

If we are again to have a formal art of gardening of our own, it must be one that will suit our climate and our tastes. We have a taste for flowers, and we take a wholesome pleasure in growing them well. Therefore our formal gardens must contain plenty of them, and must be planned so that they may be well grown. Formal gardens in England often look desolate because they contain flowers which are not well grown. It is better to have none at all than these. But our taste for flowers as the chief adornment of the garden is rational, since under our grey skies we have to supply the colour which the sun itself affords in Italy. There white palaces and terrace walks gleam among the dark glittering ilexes, with the blue sky as a background for everything. In that blaze of light there is no need for bright local colours; the sunshine makes them everywhere; and it reveals its glory best upon broad, evenly-balanced masses of light and shade. But in England, except in

rare summers such as this, we must supply our own local colour in our gardens and design them for grey days as well as sunny. A variety of colours, both in flowers and in foliage, that would look restless and incoherent under an Italian sun is pleasing in England except on the hottest and brightest days, and so is an equal variety of outline and shape. The English landscape itself is not nearly so symmetrical and architectural as the Italian; and English architecture at its best has been designed by a happy instinct to suit the landscape. If then we can design our gardens so as to suit the best of our architecture, we shall not try to imitate wild nature in them, but we shall also fall short of the extreme formality of the Italians. And we shall hit the happy mean only if in designing them we always bear in mind the uses to which we mean to put them. We shall use a yew hedge, for instance, always as a shelter, not as a mere dark line in a pattern, and if we make a shady walk we shall place it where it will lead from one important part of the garden to another. There is a fashion now for pergolas, and often they look very foolish because they are mere frameworks for roses and other climbing plants. A pergola should always be a passage; and if it is an inconvenient passage, being narrow or chippy, it should not exist at all. It is a great convenience in Italy, where people want to avoid the fierce sun even in a walk of a few yards, but in England it is often a mere fad created by the rage for Dorothy Perkins and the Crimson Rambler.

Much of the still persisting prejudice against formal gardens in England has been provoked by its irrationalities. Lately, for instance, we saw in one of the garden papers a protest against yew hedges on the ground that the yew is a fine tree and should not be spoilt by clipping. Certainly it should not, when it is grown as a tree, except in very small gardens where it is clipped to keep it in bounds. But where it is grown as a hedge it must be clipped, if the hedge is not to look untidy and so ugly. No doubt, if the supply of yews were limited, it would be a waste to use them for hedges. But the supply is unlimited except by the demand; and since the yew makes the most beautiful of hedges for garden purposes and the finest background for flowers of all colours, while it also gives an excellent shelter, there is no reason why hedges should not be made of it. But where yews and other trees and shrubs are clipped for no reason except to show that their owner can afford to waste any amount of labour upon them, they look ugly because they look irrational; and this, no doubt, is the cause of the equally irrational prejudice against all clipping. Every one clips box edgings because they are boundary lines and therefore must be regular and confined within a certain space; and clipping is always legitimate where there is a good reason for it. Formality in English gardens is never likely to become excessive where the owners are determined not to waste labour upon useless and mechanical tasks. So the architect in designing a formal garden should always consider how much labour will be required to keep it in order; but this means that he should have some practical knowledge of gardening. It is the divorce between the craft of gardening and the art of garden design which has produced extravagances in both, as it has produced extravagances in architecture and other arts. Any one who would plan a garden well should have a thorough knowledge of the materials which he proposes to employ and a persistent consciousness of the uses to which the garden is to be put. Otherwise he is sure to fall either into pedantry or into mere chaos.

9 Conduit Street, London, W., 30*th Sept.* 1911.

CHRONICLE.

The Protection of National Treasures.

Tattershall Castle, one of the finest examples of mediæval brickwork to be seen in England,* which was built by Lord Treasurer Cromwell about the years 1433–43, has, it is reported, been bought for America, and is in course of being dismantled and moved to the United States, where it will again be erected. The four famous mantelpieces of the Castle, delicate architectural compositions, carved with the heraldic devices of Lord Cromwell and his family, have been grievously mutilated in the process of removal. The fate of this interesting historic relic has aroused considerable public feeling, and the following letter from the President of the Institute appeared in *The Times* of the 21st inst. :—

Sir,—The threatened disaster at Tattershall Castle is a rude reminder of the fact that we have really no machinery in existence for the protection of those national treasures which happen to be in private ownership. Mr. E. Mansel Sympson's letter in your issue of the 20th has the great practical merit of suggesting a businesslike method of securing the protection that is now lacking. The details of his proposal would of course demand careful consideration, but I am confident that the representative body of my own profession, the Royal Institute of British Architects, will lose no time in giving its sympathetic attention to the danger that has been revealed and to the plan which Mr. Mansel Sympson has suggested.

I am, Sir, your faithfully,

Leonard Stokes,
President R.I.B.A.

Mr. Mansel Sympson proposes that the heads of the leading architectural and archæological societies and some members (who are specially interested

* The late Mr. Fred. H. Reed was awarded the Silver Medal of the Institute in 1872 for a very fine series of Measured Drawings of Tattershall Castle and its mantelpieces. These valuable drawings, together with a description of the buildings, were afterwards published in a large folio volume, a copy of which is in the Institute Library. Casts of the mantelpieces are in the South Kensington Museum.

in the subject) of both Houses of Parliament should meet to draw up a private Bill, to be introduced and, if possible, passed by Parliament this year. The Bill, he suggests, should provide (1) that all historical monuments in this country in private possession be scheduled, and (2) that no transaction of buying or selling any of these scheduled monuments be entered into and no structural alterations of them be made without due notice to and approval by the Inspector of Ancient Monuments.

Mr. Robert Hunter, writing from the Office of the National Trust, expresses the hope that the disaster which has befallen Tattershall Castle may supply the motive power necessary to carry a measure through Parliament. What is most urgently needed, he suggests, is a suspensory power vested in some Minister of State accountable to Parliament—say the Home Secretary or the First Commissioner of Works—a power to be exercised on proper representations and to be enforced by the Courts.

Lord Burghclere, Chairman of the Royal Commission on Historical Monuments (England), states that in the Commission's First Report to the King they suggested that the power of dealing with such cases should be vested by legislation in a responsible Minister of the Crown with the assistance of an Advisory Committee.

Birmingham University: Town Planning Lectureship.

A Lectureship in Civic Design and Town Planning has been established in the University of Birmingham. The cost is to be defrayed by the Bournville Village Trust which was founded by Mr. George Cadbury to encourage schemes of betterment and improved housing generally. Mr. Raymond Unwin [*F.*] has accepted the Lectureship for the first year, and will begin his course during the present Session. The Lectureship will at first be associated with the Department of Civil Engineering, where students are trained for civic and municipal service of various kinds; but it is hoped that students in other Faculties, especially those working for diplomas in Social Study, as well as persons interested in architecture and in civic improvement generally, will take advantage of these lectures. Mr. Raymond Unwin will explain his plans for the Session, in an inaugural open lecture at the Medical Theatre of the Mason College Building of the University, on Friday, October 6. The subsequent Lectures will be delivered on Fridays throughout the Winter and Spring Terms, probably at 5 p.m., in the New University Buildings at Edgbaston. For regular students there will be some amount of practical work associated with the course.

School of Art Wood-Carving.

The School of Art Wood-Carving, 39 Thurloe Place, South Kensington, which is under Royal patronage, has been reopened after the usual Summer vacation, and it is announced that some of the free studentships in the Evening Classes maintained by means of funds granted to the school by the London County Council are vacant. The day classes of the school are held from 10 to 1 and 2 to 5 on five days of the week, and from 10 to 1 on Saturdays. The evening class meets on three evenings a week and on Saturday afternoons. Forms of application for the free studentships and any further particulars relating to the school may be obtained from the Secretary.

Obituary.

James Pigott Pritchett (*Fellow* 1863-76, 1906-11) died at "Glendower," Teddington, on the 22nd September, at the age of eighty-one. Born in York on the 14th May 1830, he was educated at St. Peter's School there. After serving his time with his father, the late J. P. Pritchett, of York (who practised as an architect in York for fifty-five years), he joined him in partnership in 1853, and in 1854 succeeded to the practice in Darlington of his brother-in-law—the late John Middleton, who removed to Cheltenham. From 1854 to about 1910 he was engaged in an active general practice, though perhaps he was best known for his ecclesiastical work in the North of England. His son, Mr. H. D. Pritchett, who has been associated with him since about 1880, was taken into partnership in 1900, and is now carrying on the practice. Mr. Pritchett's health began to fail about 1905 and he gradually withdrew more and more from active work, leaving it principally to his son. His works comprise 17 cemeteries, chapels, &c., in various parts of the country, 25 new churches, 20 restorations, and additions to churches, 28 Nonconformist chapels, 16 parsonages, 18 schools and Sunday schools, 4 banks, one large training college at Darlington, 12 offices, hotels and shops, restorations to two castles, over 40 mansions, houses and cottages, and in addition sundry monuments, parish halls, &c., and houses on the Cleveland Estate at Darlington. He was surveyor to this estate under the late Duke of Cleveland, then under the present Lord Barnard, and he and the firm are responsible for a large amount of laying out and development. He was connected with local Archæological Societies, and frequently lectured and gave papers on archæological subjects. His surviving family consists of two sons and three daughters, one of the former and two of the latter being in New Zealand. Mr. Pritchett took a prominent part in the establishment of the Northern Architectural Society.

George Ransome, *Fellow*, who died at Cape Town on 26th November 1910, had been in practice in that city since 1879. Born in 1854 at Selby, Yorkshire, Mr. Ransome served his articles with Mr. J. Macvicar Anderson. He was a pupil at South Kensington, and was elected Associate

of the Institute in 1880, and Fellow in 1906. Going out to the Cape originally at the request of the Government in connection with the Houses of Parliament then being erected in Cape Town, he afterwards entered practice on his own account and designed many important buildings in the city, including offices for the *Cape Times* and *Argus*, business premises for leading merchants, and many churches and residences in the neighbourhood. Of great force of character, Mr. Ransome was of a quiet and retiring nature, and was highly respected by all with whom he came in contact. He was much in request as arbitrator in building disputes. His executed works show considerable variety in design and fine massing allied to excellent planning. Mr. Ransome had a great affection for work of the French Renaissance, and the poetry and feeling expressed in many charming skylines bear witness to effective study and masterly handling.

John Davidson, of Dumfries, recently elected Licentiate of the Institute, died on the 1st September.

Sessional Meetings 1911-1912.—The following changes have to be noted in the Sessional Programme published in the last issue of the Journal: Mr. Statham's paper on Modern French Sculpture will be read on 20th November instead of 19th February, and Mr. Warren's paper on Collegiate Architecture on 19th February instead of 20th November.

Newly-elected Licentiates.—The name of Rajendra Chandra Ghose was wrongly included in the list of newly elected Licentiates published in the Journal for 29th July.

CORRESPONDENCE.

Architects' Responsibilities.

12*th Sept.* 1911.

To the Editor, Journal R.I.B.A.,—

Sir,—The case of the Leicester Board of Guardians *v.* J. E. Trollope, reported in your issue of March last, gives rise to serious thought for all architects.

Apparently, the ruling in this case means that architects can be held responsible *for all time* for defects which may occur in any building they have designed, even when it is clear that the defect was caused by gross neglect or bad workmanship by the builder; and, further, that having granted the "final certificate" the architect, or employer, has no claim whatever against the builder, even if the deceit were deliberately committed.

In the case referred to, the builders, of their own free will (and greatly to their credit), came to the assistance of the architect after the case had been decided against him. But other architects may not be so fortunate in future.

Anyone who has experience in building knows that the architect must trust the builder to a certain extent; and that if the builder really intends to scamp and cheat the architect, there are hundreds of ways in which he can do so with very small risk of being detected.

I am certain that no solicitor or other professional man ever puts himself into such an absurd and dangerous position, and I can see no reason why architects should continue to do so.

The R.I.B.A. Form of Contract was never intended to put architects into this position, and Judges have frequently pointed out the unfairness of the clause as to the responsibility. But the law being as it is they have to rule accordingly.

It is, therefore, high time that counsel's opinion be obtained by the profession with a view to so altering the wording of the contract, or the "final certificate" (or both), as to allow the architect, or employer, to come down on the builder for defective workmanship or materials, even if discovered after the "final certificate" has been granted, provided the defect was one which the builder and not the architect is in fairness responsible for.

From the number of cases fought and lost on this ground by architects, it is evident that we are every day putting ourselves to unlimited risks for the sake of a small and hard-earned fee. The sooner we get into a stronger legal position the better for the profession, and the better work our clients will get from that class of builder who think anything will do so long as it enables them to obtain that fatal "final certificate."—I am, yours truly,

Douglas Wood [*A.*], F.S.I.

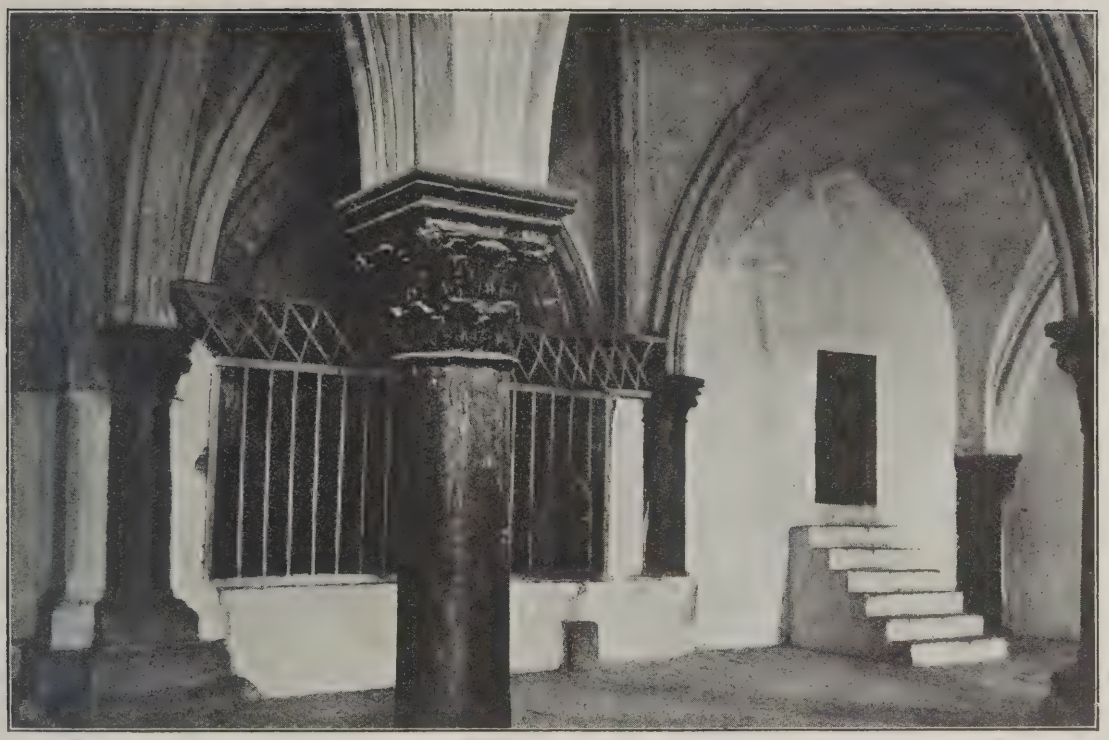
The Wrens in Pepys' Diary.

7*th Sept.* 1911.

To the Editor, Journal R.I.B.A.,—

Sir,—I was glad to see Mr. Weaver's letter in the current issue of the Journal. I will not, of course, attempt to dispute (nor do I wish to) respecting the merits of one text or another. All I would point out is that, to my mind, it is always ungenerous to despise the work of a pioneer. I am sure that all lovers of history should warmly acclaim Lord Braybrooke's initial labours; it is always easy to improve upon what has gone before. As a matter of fact, one of the diary entries (I have not the book by me) reads as if Wren and Matt. Wren were two different people, and it was this that prompted me to raise the question. I am sure we shall all welcome a paper by Mr. Weaver on Pepys as an amateur architect; but all the same, members of the profession do not regard as a brother (not even as a lay brother) those who merely pay for having alterations effected upon their property.—Faithfully yours,

Percy L. Marks.



THE CŒNACULUM OR "UPPER CHAMBER."

THE SECONDARY CHURCHES OF JERUSALEM AND ITS SUBURBS.

By Geo. Jeffery, Curator of Ancient Monuments, Cyprus.

AFTER the great church of the Holy Sepulchre*—the most remarkable and interesting monument of twelfth-century art and history in the world—the secondary churches of Jerusalem, chiefly built by the Crusaders, attract the attention of the architectural pilgrim.

De Vogüé, in his *Eglises de la Terre Sainte*, 1860, gives a description and plans of nearly all these remains of the wonderful crusading kingdom, and such few monuments as escaped his notice have since been planned and fully investigated by more recent visitors to the Holy City. The following notes are now offered as a résumé of the past fifty years' studies on the subject, and as a means of affording some idea of the present condition and probable future fate of these most interesting monuments.

THE HARAM.

The ancient churches of Jerusalem are mostly the property of the different Christian sects, or have been turned into mosques. The great and famous mosque of the Haram esh-Sherif (the Noble Sanctuary) is in a sense the most important of these ecclesiastical monuments, although its Christian character has been but of the most evanescent and transitory kind at different periods of its history. It in fact owes its world-wide interest to having been the great Holy Site revered by Jew, and Moslem, and Christian, without counting the religious interest of a prehistoric period, or its brief glory as a Roman acropolis crowned with a classic temple and colossal statues. At the present day it remains hardly second in the

* *Vide* Journal R.I.B.A., Third Series, Vol. XVII. No. 18 (27 Aug. 1910).

religious estimation of the whole Moslem world, and of course to the Jew it represents the last stronghold of his strenuous faith, but occupied, alas! by aliens.

As we see the Haram at the present day we probably look upon the design of the master masons employed by Selim I. and Solyman I. in 1530, when the new Turkish masters were setting in order their recently acquired provinces and the government of the chief cities of Islam. Its numerous Saracenic monuments are as varied in age as they are in size or use, but they all appear to have undergone a certain amount of "restoration" at the hands of the sixteenth-century Turks, they have all been rebuilt or repaired with a *cachet* betraying the Turanian race of the designers.

"Restoration" is a word fraught with evil associations in any land; how much more so in a country—a "Holy Land"—where every ruin, and almost every stone possesses associations with an historic past which has no equal in the world. The restorations of nearly 400 years ago are in themselves of a certain venerable antiquity at the present day in other countries, but in Jerusalem they seem but of yesterday. The general appearance of the Haram enclosure is not particularly venerable, whatever its associations may be; the different monuments, small and large, are built up of ancient second-hand materials, but this seems their chief antiquity. The clearing away of mediæval remains, and the substitution of new shrines and buildings, must have been far greater in the sixteenth century than is usually supposed. Taking the several separate monuments of the area in rotation, the most important from all points of view is the

Kubbet es Sakhrah.—This famous shrine was very much "restored" and embellished with fresh decorations in the sixteenth century. The main parts of its construction are doubtless old, such as the double arcade of the interior, and the general design of the great dome covered with lead. But the outside casing of the walls and certain details of interior decoration, stained glass, &c., are entirely Turkish. The tile-work and marble *placage* added in the sixteenth century are remarkable for beauty of colour at the present day, whatever the effect may have been when the work was new.

The tile covering to walls, external and internal, seems to be specially associated with the sixteenth century. To this period belong the tile-covered minarets and mosques of Damascus and Asia Minor, and the equally extensive decorations of Sicilian and Neapolitan buildings. The churches of Jerusalem are full of these famous "Persian" tiles which give such a brilliance and colour to otherwise most dingy interiors, and the Kubbet es Sakhrah is certainly a very splendid example of their external application.

Beyond a mere general outline the Kubbet es Sakhrah can bear little, if any, resemblance to its appearance in the Middle Ages, when it served as the "Templum Domini" of the Crusaders and was surrounded by the usual buildings of a collegiate church with its dean and chapter of canons of the Augustinian Order. Discoveries of its original design, as to wall construction and fenestration, were made during some repairs about thirty years ago, and the facts then recorded were published in the *Survey of Western Palestine*, 1881.

The elegant wrought-iron screen encircling the sacred rock, which closely resembles the ironwork dividing the choir from its aisles in Lincoln Cathedral, is presumably mediæval, and a few fragments of mediæval carving may also be discovered within the interior. A few traces of mediæval fresco decoration have been detected on its inside walls, but nothing remains of the lengthy inscriptions which John of Wurzburg copied down with so much care, and which accompanied the mural paintings. In converting the Kubbet into a monastic church, the Crusaders are said to have left untouched the Arabic inscriptions which they found within it, in the same way that the Spanish knights have left the Hebrew texts upon the walls of their chapel in Toledo, but the Moslems have generally swept away all traces of Christianity in those churches which they have appropriated in different parts of the Levant.

PLAN OF JERUSALEM
SHOWING
THE PROPERTIES OF DIFFERENT CHRISTIAN SECTS
Derived chiefly from the Russian Map of 1865
DAMASCUS GATE
FLOWER GATE
STORK'S TOWER
S PETER. (Mosque)
SITE OF S MARY MAGD.
NEW GATE
GOLIATH'S TOWER
FRANCISCAN CONVENT
Mon S. Vasili
S Salvador
Mon S. George
Mon. Arch Angel
Francis Cans
Mon. S. Kath Anne
Mon S. Euth Emia
Mon. S. Stage
Mon. S Theodor
Mon. Spase Tel
Mon S. Nich olas
GREEK PATRIARCHATE
CASA NOVA
LATIN PATRIARCH.
CHAPEL
Francis Cans
COPTIC PATRIARCHATE
Mon. of S Constantine
S. Sepulchre
ABYSSINIANS
COPTS
Mon. S. Demetrius
Mon: Panatia
GREEKS.
Mon S. Abraham
RUSSIAN HOSPICE
Mon S. Geor ge
Mon S. Louis
MELCHITE MON.
"MVRISTAN"
(MODERN BAZAARS.)
Mon S. John Baptist
GERMAN LUTHERANS
COVERED BAZAARS
SERAI.
COTTON BAZAAR.
JAFFA GATE.
CITADEL
DAVID'S TOWER
S. James Less.
Lon Jews Soc.
"House of Mark" Syriac Patriachate
S Thomas (Mosque)
S James
ARMENIAN PATRIARCHATE.
Mon. S. George
Mon "House of Annas."
SION GATE
GATE OF THE MOGHARIBEH
AUSTRIAN HOSPICE.
VIA DOLOROSA
Sœurs de Sion.
Roman Arch
Crown of Thorns
Flagellation
VIA DOLOROSA.
Porta Iusticiæ.
Mon. Arch Angel
Francis Cans
VIA DOLOROSA.
S Veronica
GERMANS
BAZAARS
COVERED
BARRACKS
Piscina Probatica
S. ANNA.
VIA DOLOROSA.
S. STEPHEN'S GATE
GOLDEN GATE
Es Sakhrah
HARAM ESH-SHERIF
EL AKSA.
Remains of Church
TRIPLE GATE.
Scale of Metres.
50 0 50 100 150 200 250 300 350

FIG. 1.

No trace remains of the marble floor with which the famous rock covering the sacred cave was made level to accommodate the circular choir and altar space that possibly represented to mediæval eyes a realisation of the arrangements of the ancient temple of the Jews. But the doorway which still leads down to the cave or crypt beneath, with its moulded pointed arch and side columns, may possibly belong to this marble sheathing.

As already remarked, the exterior of the Kubbet es Sakhrah must be entirely unlike anything with which the Crusaders were familiar in the twelfth century. In addition to the covering of brilliant tiles* and the large porches over the doors, the alteration of the windows, &c., the removal of contiguous buildings would tend to alter its appearance considerably. John of Wurzburg mentions the buildings of the canons' residences as attached to the Temple of the Lord, and he also refers to the arcaded entrances, which are presumably the same which still stand in a curiously isolated manner at the four cardinal points or sides of the raised platform. These now detached arcades have all the appearance of having at one time carried on a continuous cloister surrounding the Kubbet. At least such a design seems to suggest itself as being usual in buildings of this character, even if it was never actually carried out. These four arcades are of a "fragmentary" style (merely built of old fragments), and may really belong to any period as far as we can see them at the present day. The Dervish huts and tombs which now surround the raised platform probably replace the canons' residences, the refectory, and other buildings of the college which was dedicated by the Cardinal legate Alberic, Bishop of Ostia, on Easter Day 1136.

The different levels of the platforms constituting the Haram enclosure are defined to a great extent by the presence of the rock surfaces which appear at different points, culminating in the central "Sakhrah," round which so many associations linger. The retaining walls which surround these platforms have been rebuilt at different periods, and with the exception of the great outer enceinte, which evidently dates from an early period with Roman and Byzantine additions, there is no very precise history. The upper platform on which the Sakhrah Kubbet is built owes its present irregular form doubtless to the demolition of the cloister and buildings which once surrounded it.

Upon the platform of the Kubbet es Sakhrah stands one other ancient monument which may, or may not, be of the crusading period. This is the Kubbet es Silsileh, an octagonal structure supported on a double arcade with ancient columns, but evidently completely reconstructed in 1530, and covered with the same beautiful tile-work as the great Kubbet es Sakhrah.

This Kubbet, or some building exactly occupying its site, was known to the Crusaders as the Chapel of St. James, situated at the east door or side of the "Templum Domini." To them it commemorated the martyrdom and casting down from the acropolis height into the adjacent Valley of Siloam of the Apostle James, the son of Alphæus, and round its walls (it has none at the present day, being but an open arcaded structure) ran the long inscription, preserved by John of Wurzburg, beginning "IACOBVS ALPHÆI DOMINI SIMILIS FACIEI," &c.

The rich blue colour of what, seen at a distance, was supposed to be the stone with which they were built, attracted the notice of the pilgrims, such as Stochove and Sandys, in the sixteenth century to these monuments on the highest platform of the Haram. The tile-work was no doubt then of a remarkable brilliance; it would appear to have been made in Jerusalem, as the parts which follow the lines of arches or their spandrels, &c., are all exactly modelled and painted to suit the exact positions which they occupy. This is more especially noticeable in the smaller of the two shrines. At the present day there appears to be nothing

* "Persian" faïence was known in Persia in the thirteenth century, but it did not become popular in the Mediterranean countries until about two or three hundred years later.

in the shape of a fabrique of pottery or porcelain in or near Jerusalem; the ancient and very beautiful art is quite extinct in Palestine, but perhaps lingers in Asia Minor.

The lower area of the Haram must have been much altered and rearranged by the Turks in 1530. The defences towards the Valley of Jehoshaphat were rebuilt in conformity with the rest of the city wall, the ancient Byzantine gates were walled up, and the modern minarets erected. Many of the extraordinary caverns or reservoirs with which the area is honeycombed were probably more exposed to the upper world than they are at present; this would account for Holy Sites mentioned by John of Wurzburg, spoken of as caves or grottos, which have since been covered up. The enclosing walls and arcades on the south and west are possibly of the date which is inscribed over the central gate, the Bab-el-Katanin (or Cotton Bazaar), A.H. 737 = A.D. 1336.

The Golden Gate.—This remarkable Byzantine monument remains at the present day in an interesting state of preservation. Its debased Classic architecture, with its Levantine peculiarities, seems intact. It was walled up by the Turks in 1530, and the ancient wood doors removed at this time were presented to the Franciscans of the Cœnaculum, to be placed amongst their relics in the Church of the Holy Sepulchre. At the same time the annual commemoration of Christ's entry into Jerusalem from Bethphage, which was celebrated by the Franciscans with a procession headed by the Padre Guardiano riding on a donkey across the Valley of Jehoshaphat, was necessarily discontinued (*vide Liber de perenni cultu Terræ Sanctæ*, by Fra Bonifazio Corsetti, 1553). Although apparently quite disused at the present day, this peculiar structure has received some attention in the way of support. The western side showing a tendency to settlement, two very ornamental flying buttresses have been erected against it in the form of archways. This addition, made about 1880, is in very good taste, and harmonises with the original building.

The "Stables of Solomon."—These immense substructures of the Haram main platform have excited astonishment at all periods. As we see them at the present day we look upon a style of construction of no very great antiquity. The vaults and arches are built of small stones, and with the general shape and proportions of what is recognised as "Crusaders' work." The square piers supporting this vaulting, of evidently much older materials re-used, have the venerable appearance of the outside wall of this part of the enclosure. The place has evidently been used as a stable, because the curious holes cut through the angles of every "coign of vantage" for the purpose of tethering animals are a sufficient proof. Doubtless we are looking therefore upon a genuine untouched portion of the Crusaders' arrangements of the twelfth century. The entrance into these stables would be through the triple gateway in the south wall of the Haram. There would seem to have been a passage, now walled up, between the stables and the long corridor beneath the Aksa, where a doorway opening eastwards shows in the wall.

In the fifteenth century, before the occupation of Syria by the Turks and the great wars between the Ottoman Empire and the European States, the Haram was perhaps a little less jealously guarded by the fanatical Moslems than at subsequent periods. Francesco Suriano, Guardian of Mount Sion in about 1480, has left some interesting notes upon this subject. He says:—

"Soto el tempio è vacuo, facto tute a volta sopra colonne altissimi . . . Soto queste volte credo che tenevano li animali offerti al tempio . . . e quando bisogna a fare da novo o reparare el vecchio alcuna cosa mandano per li nostri frati in Monte Sion."

The latter statement of the Padre Guardiano is very remarkable. It implies that the Christians and Arab Moslems were on such good terms that the Latin monks with their superior technical ability were habitually employed whenever repairs to the monuments of the Haram were necessary. After the coming of the Turks and a great many other revolutions

in the affairs of Jerusalem, these amicable relations between Christian and Moslem ceased, and from the middle of the sixteenth century to the middle of the nineteenth the Haram enclosure was closed against all Europeans under penalty of death. Dr. Eli Smith, the first editor of Murray's *Palestine*, states that the Haram was opened to European travellers in 1856 on payment of £1 each.

It is supposed that a much larger extent of these vaulted chambers really exists than is now accessible, but the Palestine Exploration Society does not seem to have cleared up this part of the matter at present.

The triple gate entrance into these stables must evidently belong to the period of their construction, or reconstruction, and may possibly be mediæval.

The Vaulted Corridor beneath the Aksa.—This evidently Byzantine fragment of somewhat obscure origin and significance is clearly identical in date with the Golden Gate. The same design and detail is to be found in both.

It is difficult to realise what may have been the plan and use of this double gate in the south wall of the Haram. It has evidently been very much changed in its relative position with regard to the successive superstructures reared above it. Presumably it was intended to form a grand approach to the Kubbet es Sakhrah or the Roman temple which previously occupied that position. But the Kubbet es Sakhrah, as known to history, is a Mahommedan building, not older in any case than the traditional date of its foundation by Abdelmelek in 686, whilst this mysterious passage entrance looks of a different style, and if it should belong to the buildings of Justinian, as has often been supposed, it would be about a century older than anything we see on the Haram platform at the present day. If it has any connection with the Church of the "Presentation," said to have been built somewhere about this site, its position is all the more remarkable and difficult of explanation as part of any regular design, unless we suppose the original Byzantine portion of the construction to stop at the flight of steps leading up from the actual entrance, with its famous column 6 feet 6 inches in diameter, and the long double tunnel leading to the Kubbet to be some later modification of its use.

The Church of the "Presentation," erected by Justinian, is described by the pilgrim Antonio of Piacenza as being built between two hospices (each of which accommodated 2500 pilgrims) disposed in the form of a hemicycle in front of its entrance. Such a group of large buildings may have occupied the southern part of the Haram in the sixth century, but it is difficult to imagine its plan or any connection with this long underground passage nearly 300 feet in length. In any case there can be little doubt that the long tunnel (which is only double for a certain distance) has been lengthened at some period in order to carry its upper entrance outside the confines of the subsequently built mosque. It is unfortunate that Procopius should have been so unintelligible in his descriptions of Justinian's works on this acropolis.

Al Aksa.—This large and imposing building, although somewhat resembling a church in appearance, was built by Moslems as a mosque, and is therefore on that account outside the scope of the present article. That it should ever have been regarded as possibly a "restoration" of the Church of the "Presentation" of the sixth century can only be attributed to the confusion of ideas about all the historical sites of the Holy Land which characterises the pilgrims' accounts of the Middle Ages. Even Fra Francesco Suriano, who professes to have often visited its interior, and who consequently ought to have known better, states :—

"Presentatione.—Questa gloriosa chiesia e facta al Italiana ed è in sete navate cum sete porte principale . . . de dentro tuta è foderata de tavole de marmaro . . . le quale ho tute vedute e più fiate."

The mosque Al Aksa is generally considered to owe its present form to the munificence of the Baharite Memluk Sultan Naser Mohammed Ebn Kaláuon, after his victory over the

Tartars in 1303. There is said to be an inscription within it recording Sultan Kaláuon as its founder in 1327, which may very well be correct, as this Sultan did not die until 1341 [fig. 2].

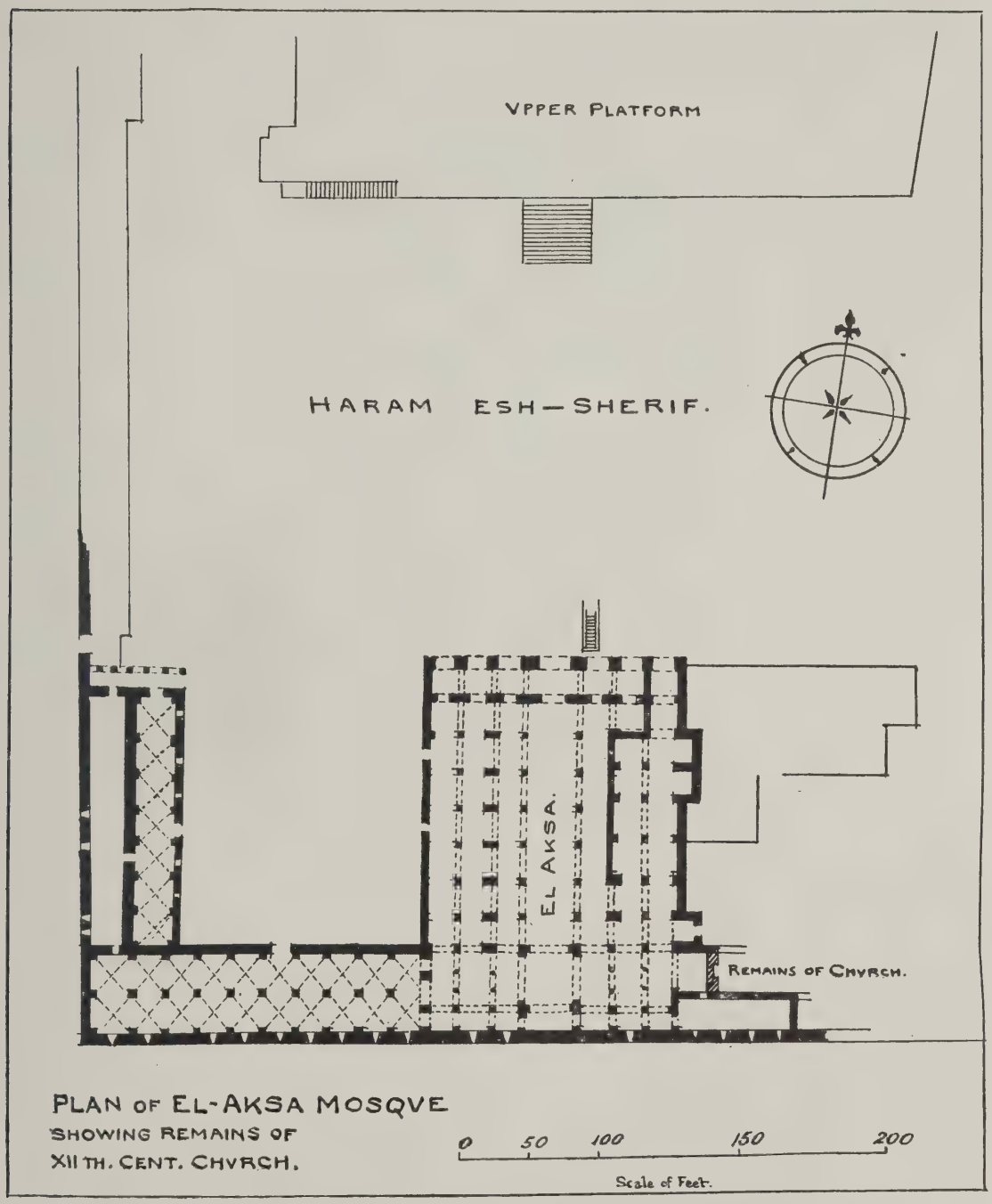


FIG. 2.—PORTION OF THE HARAM AREA, FROM THE PALESTINE EXPLORATION FUND SURVEY.

The only interesting portion of this immense building, with its seven naves and numerous dependencies, to the Christian ecclesiologist is the fragment of a mediæval church which may

be found on the east side near the south end, used up as part of the outside walls of the mosque* [fig. 3].

This fragment is apparently the west end of a twelfth-century church, with its doorway decorated with the characteristic cushion voussoir moulding, and a large well-preserved circular

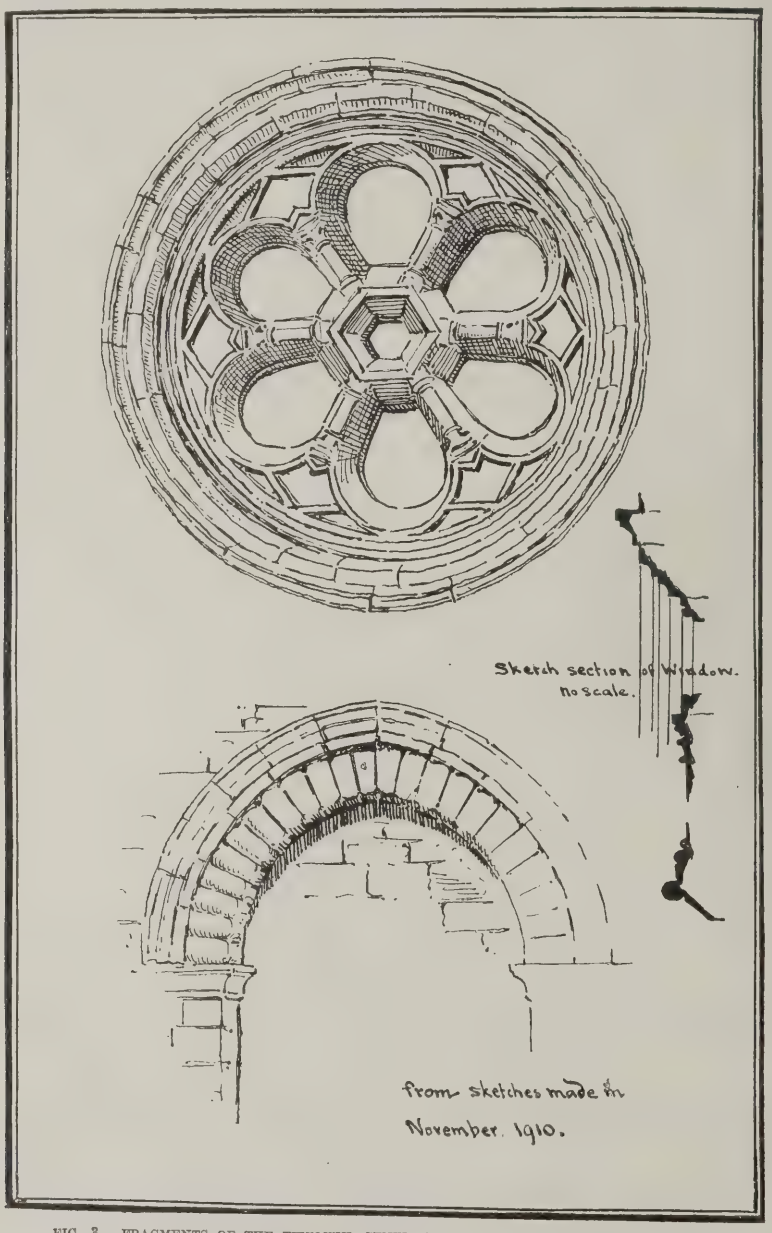


FIG. 3.—FRAGMENTS OF THE TWELFTH CENTURY NOW BUILT INTO THE EAST WALL OF THE AKSA MOSQUE, ORIGINALLY THE WEST WALL OF A CHRISTIAN CHURCH. VIEWED FROM INSIDE THE MOSQUE.

window above. The doorway is now walled up, and the window is unfortunately covered over by a ruinous fragment of lath and plaster filling-in; but so far as can be now seen the gable-wall

* I am indebted to the Rev. Canon Yarborough, Vicar of Christchurch, Hants, for permission to use some sketches of these details made by him at my request on a recent visit to the Haram esh-Sherif.

must have been the west end of an important church with an open space in front of it. This open space would be just above the great Byzantine entrance with double arch of the south wall, and is the area within the present mosque called the *Jami' al Arbein* (Mosque of the Forty).

At the taking and sack of Jerusalem by the Kharismian tribes in 1244, it is probable that the "palatium Solomonis," as the residence of the Frank kings was called, situated at the south end of the Haram, was destroyed. Part of its ruins, in a rebuilt state, may survive in the long two-aisled building which extends along the western part of the south wall, and is known as the Bakáat al Baidha, or Mosque of Abu Bekr (El Munsoor Abu Bekr, son of Naser Mohammed Ebn Kaláuon, who succeeded his father in 1341). At the end of the thirteenth and the beginning of the fourteenth centuries the condition of Jerusalem must have been deplorable; warfare between Saracens and Latin Christians had culminated in the massacre of Acre, and the enemies of the Christians now allied with their former adversaries, the Mongols, were in possession of the whole eastern littoral of the Mediterranean. Ricoldo di Monte Croce, the Dominican monk of Santa Maria Novella, Florence, was one of the earliest visitors to the Holy Land after the events of 1291. In his *Itinerarium* he describes the devastation of Jerusalem, but he does not appear to have visited the Haram. Ludolph von Sudheim, another early visitor (1337) does not mention very much, although by this time: "Templum autem, quod nunc est, non habet tecta atria; sed in circuitu est ambitus non tectus et in pavimento albo marmore bene structus." By the beginning of the fourteenth century the unsightly ruins of the Christian occupation of the Haram had probably been completely cleared away or had been readapted to Moslem requirements. This range of buildings which extended along the southern boundary of the Haram is repeatedly referred to in mediæval documents as "the Temple" (distinguished from the "Templum Domini"), the palace or the portico of Solomon, but without definite description. In the plan of Jerusalem of 1170, now at the Hague, the Claustrum Solomonis is perhaps shown as the southern end of the west wall, above the present "Jews' wailing place"; and the "Templum Solomonis" is a building of imposing proportions but indefinite character. All that we can really know about these very interesting edifices once occupying the south end of the Haram is that within the "Templum" or "Palatium" the Latin kings lived and held their court, and that in the adjoining buildings the Order of the Temple was installed, with presumably the lodgings of the Grand Master.

A propos of this subject, it may be as well to recall the pre-crusading aspect of the Haram, at a time when the first Mahommedan occupation of the site was drawing to an end. Mukaddasi (*c.* 1000), a Moslem native of Jerusalem, describes the mosque as follows: —

"The Masjid al Aksa (the Further Mosque) lies at the south-eastern corner of the Holy City. The stones of the foundations (of the outer wall) are ten ells or a little less in length, which were laid by David. They are chiselled, finely faced and jointed, and of hardest material. On these the Khalif Abdal Malik subsequently built, using smaller, but well-shaped stones, and battlements are added above. This mosque is even more beautiful than that of Damascus, for during the building of it they had for a rival and as a comparison the great church belonging to the Christians at Jerusalem, and they built this to be even more magnificent than that other. But in the days of the Abbasides occurred the earthquakes which threw down most of the main building; all, in fact, except that portion round the Mihrab. Now when the Khalif of that day obtained news of this . . . he wrote to the Governors of Provinces and other Commanders, that each should undertake the building of a colonnade. The order was carried out, and the edifice rose firmer and more substantial than even it had been in former times. The more ancient portion remained, even like a beauty spot in the midst of the new; and it extends as far as the limit of the marble columns, for, beyond, where the columns are of concrete, the later part commences.

"The main building of the mosque has twenty-six doors. The door opposite to the Mihrab is called Bab en Nahâs al Atham; it is plated with gilded brass, and is so heavy that only a man strong of shoulder and of arm can turn it on its hinges. To the right hand of the great gate are seven large doors, the midmost one of which is covered with gilt plates; and after the same manner there are seven doors to the left. And further, on the eastern side are eleven doors, unornamented. Over the first mentioned doors, fifteen in number, is a colonnade supported on marble columns, lately erected by Abd Allah ibn Tahir (Governor of Khurasan, 828–844 A.D.). In the court of

the mosque, on the right-hand side, are colonnades supported by marble pillars and pilasters ; and on the further side are halls vaulted in stone. The centre part of the main building of the mosque is covered by a mighty roof, high pitched and gable-wise, behind which rises a magnificent dome. The ceiling everywhere, with the exception of that of the halls on the further side of the court, is formed of lead in sheets, but in these halls the ceilings are faced with mosaics studded in." (Le Strange's translation. Palestine Pilgrims Text Society, 1886.)

From the foregoing description it must be evident that few, if any, traces are to be found of this earlier mosque amongst the comparatively modern buildings occupying the south end of the Haram, and perhaps the only fragment of a monument of the period of Latin occupation is the hitherto unnoticed west end of a church, which may be the one dedicated at Easter 1136 by the Cardinal legate Alberic, Bishop of Ostia, in the presence of Guillaume, Patriarch of Jerusalem, and numerous chevaliers, on this site. The Order of the Temple had been founded in 1128 by Pope Honorius at the Council of Troyes, and the Rule had been composed by St. Bernard. John of Wurzburg speaks of the magnificent buildings and of a church in course of erection in 1170. How these buildings, comprising a royal palace and the military convent of knights, could have been arranged on such a site is for the present an unsolved mystery. All that we can know, from such trifling explorations of the buildings at the south end of the Haram as different Palestine Societies have been permitted to carry out, is that nothing which can be identified with the royal hall of a mediæval palace or with the usual conventual buildings of a military Order can now be traced on the site.

The mosque of El Aksa, as rebuilt by the Memluk Sultans of the fourteenth century, may perhaps be an attempt to reproduce the older mosque (possibly unconsciously) as described by Mukaddasi at the beginning of the eleventh century.

THE CHURCHES IN THE JEWISH QUARTER (ADJOINING THE HARAM).

The "Juiverie" of the crusading period in Jerusalem history was the north-east quarter of the city, which, in more recent times, has become exclusively Moslem. The modern Jewish quarter extends over the west side of the town, between the great Armenian convent and the Haram enclosure. Within this latter district almost all traces of churches once existing have entirely disappeared. St. Giles in the Tyropœon, S. Marie des Allemands, St. Peter, and St. Martin are mere names in ancient records.

St. Thomas is a small church of no architectural character, close to the Armenian property, which has been abandoned to ruin, apparently for centuries. Some attempt to restore it about 1850 seems to have failed, and whether for Christian or Moslem use is not very apparent. There would seem to be some legend current about treasure buried within the ruin, which may account for its appearance of "being in Chancery." Not mentioned by De Vogüé.

Not far from the ruin of St. Thomas, and adjoining the old Anglo-German "Christ Church," is a very complete little Crusaders' church, dedicated to *St. James the Less.* It only measures 10 m. by 6 m., and is covered with a barrel vault, and possesses a sort of choir recess with an apse. It is entirely without architectural character, but has an appearance of belonging to a later period than the twelfth century. De Vogüé states that in his time it was owned by the Syrians, but at the present day it is occasionally used as a stable or sheepfold by its Moslem owner. Like many of the small chapels of Jerusalem—even those built by the Crusaders—it possesses but small interest, historical or artistic.

The adjacent *English church,* now belonging to the London Jews' Society, was originally built for the use of the Anglo-German Missionary Societies, and as the Cathedral of the Anglo-German Bishops of Jerusalem during the latter part of the nineteenth century. Since the abolition of the Anglo-German arrangement, which came to an end about forty years ago, the little church has ceased to be used for the latter purpose. This insignificant building

has a certain interest as representing the taste of the period—of a very characteristic English kind—and on account of its having been erected under considerable difficulties. It was designed by a young English architect named Hillyer, who died during the progress of the work in 1845, and was buried on Mount Sion. A clerk of works named Crutchlow, who was assisting Mr. Hillyer in Jerusalem, carried on the building, which was finished and consecrated in 1846. The foundations are said to go down to a depth greater than the height of the building, through the enormous collection of rubbish and débris on which modern Jerusalem is built. The design of the little church hardly calls for remark, but every English visitor is vividly reminded of his native land at the sight of this familiar " carpenter's Gothic " chapel of the early Victorian era.

The *House of St. Mark* is the residence of the Syriac Bishop in Jerusalem, and is the traditional scene of St. Peter's visit after his miraculous release from prison. The church is of twelfth-century type, but built, like most of these smaller shrines, in so plain and unarchitectural a manner as to be difficult of identification. The main entrance to the building is also in the ancient style, but, although ancient in general appearance, such a building may be but another example of the small native church imitating the older models of the crusading epoch.

Here it may be interesting to note that the native Christians of the Levant had, until quite the middle of the nineteenth century, the custom of building their small unpretentious churches in a very fair traditional style of mason craft based on the surviving remains of the crusading epoch. It is often difficult to be sure of the century when some village church of Syria or Cyprus was actually built. An illiterate peasantry can hardly be expected to leave inscriptions or dates on monumental buildings although evincing a certain amount of artistic feeling in their erection.

The Hospital.—Within recent years the traces of this famous institution have been growing fainter, and at the present moment some of the last surviving of its long-pointed barrel vaults are being pulled down by the German Lutherans who occupy the eastern half of the site.

The Order of St. John, founded in 1048 by the Amalfitans, occupied a vast enclosure situated in the centre of Jerusalem, on the south side of the Holy Sepulchre, and bounded on all sides by rows of bazaar shops, above which the buildings were carried as a second story. This enclosed area is almost a square, formed by the Rue du Patriarche on the west, the Rue David on the south, the Rue des Palmiers on the north, and on the east the still unchanged covered bazaar. There was also a narrow lane called " Ruelle," which penetrated this enclosure on the east, also full of small shops. De Vogüé supposes this area to have been filled with numerous cloistered courtyards in the style of Eastern *khans*, in two stories, and in some accounts no less than 180 marble columns are mentioned. These structures were completely ruined at the fall of the Latin domination in the Holy City, but according to Medji-ed-Din, writing in 1495, it was within this enclosure that Saladin took up his abode in 1187, and hence it was afterwards known to the Moslems as the " Hospital of Saladin." Another tradition survives that Saladin here instituted a mad-house for the district—*Muristan* in Arabic—but this may be but a term of derision under the circumstances, like the name of " rubbish heap " applied to the Church of the Holy Sepulchre.

For 300 years the ruins of the " Hospital " afforded shelter to the pilgrims of the Middle Ages. Felix Faber lodged there in 1483. But by the eighteenth century the area had become a mere piece of waste ground in the middle of the city, with unsightly heaps of rubbish and filth, surrounded by tottering walls. The site remained in this condition until the middle of the nineteenth century, when its eastern half was presented, for some unexplained reason, to the then Crown Prince of Prussia, afterwards Emperor Frederick of Germany. The

remainder of the land continued unoccupied until the beginning of the present century. It was then taken over by the Greek Convent of the Holy Sepulchre, and turned into a speculative building estate, forming a bazaar of several streets of one and two storied houses, chiefly used as shops for small Jew traders. In the centre of this singularly hideous modern quarter of the Holy City is a strange attempt at a fountain built up of ancient remains found on the site.

The large ruined church situated at the north-east corner of the Muristan, the remains of which are now built up into a supposed "restoration" of the edifice with the name of the "Lutheran Church of the Redeemer," was known in recent ages as "Santa Maria Maggiore." In reality this church was the rebuilding of the famous *Sancta Maria Latina*, which had formerly stood on the space of the present *parvis* in front of the Church of the Holy Sepulchre, and as such it is shown on the mediæval plans of Jerusalem under its proper name. This church consequently belonged in date to about the middle of the twelfth century. It consisted of the usual three aisles, each ending in a semicircular apse, and divided from each other by nave arcades of five bays. On the north side was a large porchlike doorway, with a grand and richly decorated semicircular arch, forming a canopy over a double entrance constructed with two small semicircular arches resting on a *trumeau*. The tympanum of this porch gateway was originally filled with elaborate sculptures, and the outer arch was carved with Zodiac signs in the style of the Provençal churches.

In 1890 the greater part of the lower walls, the nave arcade bases, and almost the whole of the north door of the ancient church remained intact, but within two or three years afterwards the German Lutherans had decided to build their new church on the site, and in so doing the ancient remains were completely pulled down. A clumsy reproduction of the ancient porch was attempted, but the few fragments of sculpture inserted in the new building have a tasteless and ridiculous appearance under the circumstances. In destroying the ruins of this church, the Germans removed one of the most interesting of the long series of shattered landmarks of the great crusading era. De Vogüé gives an excellent drawing of the ruined porch gateway as it appeared in 1860, and as it continued to exist until 1890; in those days the greater part of the Zodiac had disappeared, and only the figures of August and September could be clearly discerned.

The Church of Santa Maria Maggiore is mentioned by the later pilgrims, and in the *Citez de Jherusalem* it is described :—

"Au chef des eschoppes (des orfèvres latins) avoit une abaie des nonnains que on apeloit Sainte Marie la Grant."

The convent of Sancta Maria Latina in its later form as Santa Maria Maggiore was perhaps rebuilt and reorganised under the rule of a certain dame Agnes, about 1140, at the time of the great revival or reinstitution of the Order of St. John by Raymond du Puy.

The remains of the cloister and its surrounding buildings which adjoined the church on its south side are still preserved to some extent within the modern buildings connected with the Lutheran establishment. The cloister, surrounding a small garth, was of plain and unornamented pointed arches carried on columns with very simple capitals. A large vaulted chamber on the south side of the cloister, which may possibly have been the conventual dormitory, was long used as a Lutheran place of worship, until the building of the modern Church of the Redeemer. All the buildings of this convent, excepting its church, appear to have been of a plain utilitarian character (*vide* fig. 4).

In its original foundation as the successor of the Benedictine Abbey of Sancta Maria ad Latinos, this twelfth-century church and convent of Santa Maria Maggiore would seem to have become the female Hospice of St. John's Order. It was divided by a "ruelle," or narrow lane, from the greater general Hospice of the Order on the western portion of the Muristan area.

Many revolutions in the general conditions of the western portion of the Muristan have taken place since the days of Saladin and of the mediæval pilgrims, and now its very name has disappeared, and every trace of the "Hospital" has been clean swept away in the course of covering the site with a fantastic modern bazaar. A relic of some former age, but without any architectural character to afford identification, has been permitted to remain at the south-west corner. This is the comparatively modern Orthodox Church of St. John the Baptist, with the unusual feature of a large crypt beneath it. This building has been carefully drawn and described by Mr. Archibald Dickie in the JOURNAL R.I.B.A. for March 6, 1899. In the opinion of the present writer, whatever this edifice may represent or reproduce, it is certainly

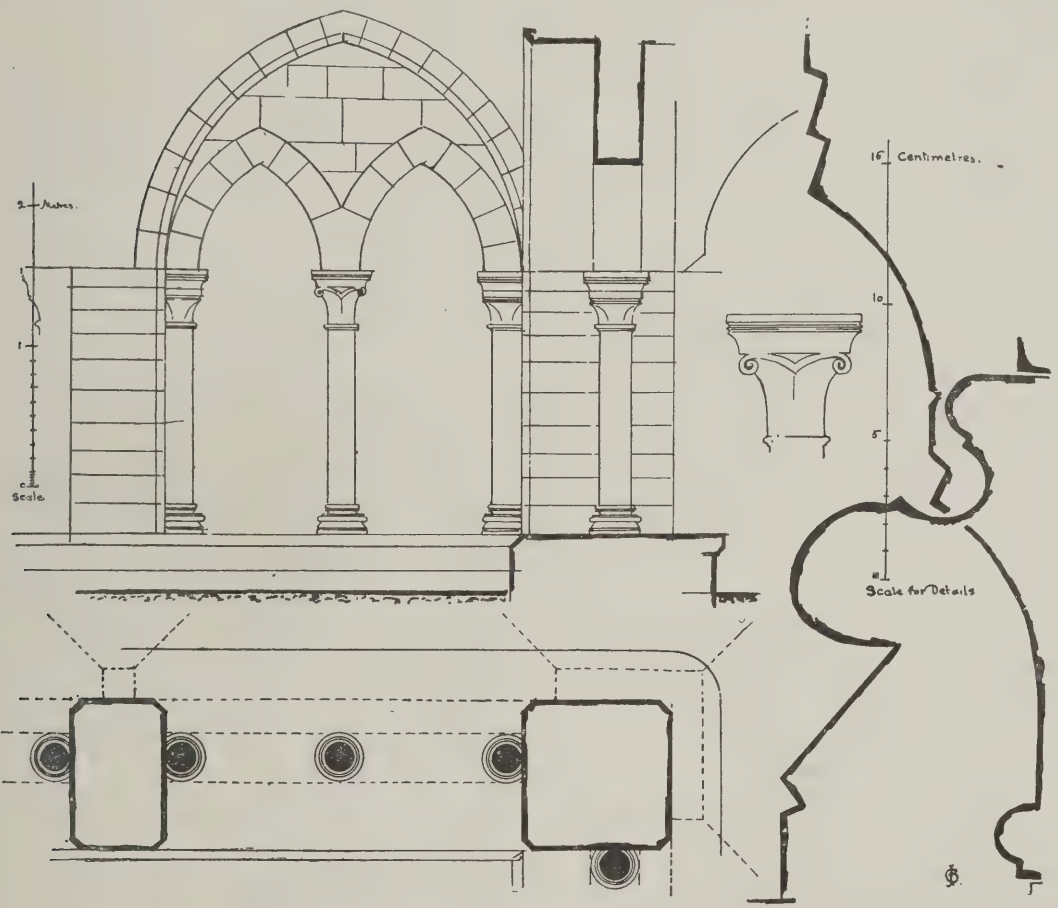


FIG. 4.—FRAGMENT REMAINING OF THE CLOISTER OF S. MARIA LATINA.

in itself of no great antiquity. The upper portion of the church is entirely modern (nineteenth century), and the singular undercroft is apparently of the same date, but constructed of old stones—a mere basement to the upper story.

On the north side of the Muristan enclosure, and forming the south side of the *parvis* of the Holy Sepulchre, are two small properties without any special history. The small convent (Orthodox) of Gethsemane is probably a creation of the Turkish period, unless it reproduces a mediæval convent of St. Mary the Less, of which there are some documentary evidences and traditions as to existence in this position. The second of these properties is a small mosque which must have been built shortly after the Moslem occupation of Jerusalem in 1244. It has

a high minaret, its only architectural feature, rebuilt after an earthquake in 1455. This minaret is curious as having been evidently built, together with the minaret of the Kankar Mosque on the opposite side of the Holy Sepulchre Church, with the intention of serving the purpose of a point of vantage for controlling the unruly crowd of Christians down below by the armed Zaptiehs and Turkish soldiers of former times. This little mosque is known by the name of the "Omeriyia," or Mosque of Omar, and reproduces the original mosque, built by the Khalif in the portico of the Basilica of the Holy Sepulchre after the famous meeting between Sophronios and Omar in 637. The original mosque having disappeared along with the Basilica and its portico, the Moslems, on regaining possession of Jerusalem, having a mere tradition that such a mosque stood formerly in front of the famous church, decided that they must rebuild it in the same relative position, oblivious of the fact that the principal entrance to the Holy Sepulchre was no longer on the east but on the south side.

This little mosque is also called Ed Derkah, and is said by De Vogüé to have been built by Chebab-ed-Din in 1216, on the site of the original church of the Order. There does not, however, appear to be much more evidence for this latter statement. Within the past year this little mosque has been practically rebuilt once more, excepting the minaret, and a new entrance of a very ornamental description has been added on the west side. During the progress of these works the present writer inspected the lower floor of the mosque, which consists of the wide span pointed vaults built side by side which are always found in Crusaders' buildings. There seemed nothing of any kind which would suggest the presence of any church upon such a site.

Some idea of the importance and magnitude of the Hospital buildings at one time occupying the centre of Jerusalem may be gained in the following abridgment from the Abbé de Vertot's *History of the Knights of Malta*, English version, London, 1728 :—

"In the eleventh century some Italian merchants undertook to procure an asylum for the European pilgrims in the very city of Jerusalem, where they might have nothing to fear either from the false zeal of the Mohammedans, or the enmity and aversion of the schismatical Greeks. . . .

"The governor assigned them a piece of ground, on which they built a chapel and dedicated it to the Blessed Virgin, by the name of S. Mary 'ad Latinos,' to distinguish it from the churches where Divine service was celebrated according to the Greek ritual ; some monks of the Benedictine Order officiated in it. Near their convent they built two houses of entertainment for the reception of pilgrims of both sexes, whether in health or sickness, which was the chief view in this foundation ; and each house had afterwards a chapel in it, the one dedicated to St. John the Almoner, and the other to St. Mary Magdalen. This holy house, governed by the Benedictine monks, and which may be looked upon as the cradle of the Order of St. John, served afterwards as a place of security and a retreat for pilgrims."

On the 7th June, 1099, the European army of the Crusaders appeared before the walls of Jerusalem, and commenced the famous siege.

"The governor of the city shut up the Christians he suspected in different prisons, and among the rest the administrator of the Hospital of St. John. He was a Frenchman and named Gerard, born, as some historians relate, in the island of Martigues in Provence. He had devoted himself long before to the service of the pilgrims, at the same time that Agnes, a Roman lady of illustrious birth, governed the house appointed for the reception of persons of her sex. All pilgrims were admitted into the Hospital of St. John, without distinction of Greek and Latin ; the very infidels received alms there ; and the inhabitants in general, of whatsoever religion they were, looked upon the administrator of the Hospital as the common father of the poor of the city."

After the siege and capture of Jerusalem, the Prince Godfrey visited the Hospital and

"was received there by the pious Gerard, and the other administrators of the same fraternity ; and there he found a great number of the soldiers of the crusade, who had been wounded in the siege, and carried thither after the taking of the place :

"In 1118 the Hospitallers lost the blessed Gerard, the father of the poor and pilgrims. That virtuous man, after having arrived at an exceeding old age, expired in the arms of his brethren almost without any sickness, and

fell as we may say like a fruit ripe for eternity. The Hospitallers assembled after his death to choose him a successor pursuant to the bull of Pope Paschal II. There was no division upon the point ; all their votes united in favour of brother Raymond Dupuy, a gentleman of Dauphiny."

About the same date (1118) was instituted the Order of the Temple by Hugh de Payens, Geoffrey de St. Aldemar, and other gentlemen, all Frenchmen, who formed among them a little society to guard and conduct pilgrims to the Holy City. Brompton, the historian, a contemporary, states that in his time these gentlemen were supposed to be pupils of the Hospitallers, and to have subsisted several years only by relief from them. They retired into a house near the Temple, which occasioned their having afterwards the name of Templars, or Knights of the Temple.

The sudden rise of the two great military religious Orders into the greatest influence and power within the newly instituted Latin kingdom of the Levant was only to be expected under the circumstances; and as a consequence their rivalry and quarrels with the secular clergy might have equally been anticipated. The Templars were eventually crushed by their enemies in Church and State, but the older Order of the Hospital braved and survived many a violent struggle with their ecclesiastical brethren. One of these unseemly conflicts between Christians, which took place in 1154, during the presidency of the first Grand Master, has a bearing upon the architectural history of Jerusalem. After referring to the contentions between the Order and the secular priests, the Abbé Vertot says :—

" Besides these general grievances, Foucher, the Patriarch, complained of one particular relating to himself, viz. that the Hospitallers, whose church and house stood near the Church of the Holy Sepulchre, had erected more magnificent buildings than his own church and palace. The complaints were bitter on both sides, the one founded their claim on common right, the others pleaded their privileges in bar of that right. Invectives and abusive language succeeded reciprocal complaints ; and, what is not to be mentioned without concern, they proceeded at last to acts of violence. 'Tis said that arrows were shot from the quarter of the Hospitallers against the priests of the Patriarch. Those ecclesiastics did not return force for force ; but out of a more refined sort of vengeance they gathered up these arrows, tied them in a bundle, and, to preserve the memory of so odious an outrage, fixed them up at the entrance of the Church of Calvary. William, Archbishop of Tyre, relates this fact as an eye-witness ; he adds, that the cause of these dissensions ought to be laid upon the Popes, who had exempted these military friars from the episcopal jurisdiction."

These unhappy quarrels led to embassies being sent to Rome by both sides, and to further recriminations on either part, the Hospitallers being accused, amongst other things, of ringing the bells of their church whilst the Patriarch was preaching to the people, on purpose to hinder his being heard. From all this it would appear that the church and buildings of the Hospital were of considerable importance in the middle of the twelfth century—buildings of which hardly a trace can be considered to survive at the present day.

Thirty-seven years after the consecration of the Church of the Holy Sepulchre, amidst these jealousies and heartburnings, Jerusalem was again in the hands of the Moslems. During the period between this event and the cession of the Holy City to Frederick II. in 1229, came into existence the famous Teutonic Order of St. Mary of Jerusalem. The German Emperors Frederick I. and Frederick II. were the originators of Teuton enterprise in the Levant, and as such they seem to have come into collision with the more purely Latin interests. Frederick II. was an implacable enemy of both the older Orders of Knights. He was denounced in the Papal briefs as the ally of Saracens and Infidels, and as the destroyer of the hospitals and other properties of the Christian religious Orders.

These allegations against the great Emperor Frederick—the man so much in advance of his time—were doubtless dictated to a great extent by the political rancour of the " Guelphs " against the " Ghibellines " ; at the same time it is not improbable that amongst the properties which he is accused of destroying, the vast building of the Hospital in Jerusalem may have

suffered, whilst the great tower he is supposed to have built on the opposite side of the *parvis* of the Holy Sepulchre was in course of construction. The tentative occupation of Jerusalem by the Christians towards the middle of the thirteenth century was, however, a mere farce, and we have few indications on record of the condition of the city during the period of about fifteen years. Our only conclusions are that the secular clergy took advantage of German, or "Ghibelline," protection to assert their importance in new buildings at the Holy Sepulchre, whilst their rivals, the military friars, who represented the "Guelph" interest, were proportionately repressed.

"Christianis odium exhibit manifestum ad exterminandas domus hospitalis et fratrum militiæ templi, per quas reliquiæ Terræ Sanctæ hactenus sunt observatæ." (Mat. Paris. ann. 1228.)

Elsewhere than in the Holy Land the Order of St. John seems to have flourished during these last years of the kingdom of Jerusalem. Their "Commanderies" were established in all the countries of the West, and the fate of the female branch—the Convent of St. Mary the Great or the Less—seems to be identified with the foundation of the nunnery of Sixenne, a village situated between Saragossa and Lerida in the kingdom of Arragon.

"This royal convent was founded for sixty ladies of noble birth, who were to be admitted without any portion; and such as were of the kingdom of Arragon and Catalonia were to be of an extraction so illustrious and so publickly known, that they should have no need to produce their proofs. Their habit was a robe of scarlet or red cloth with a black mantle *à bec*, upon which was the white cross of eight points directly upon the heart; they had a particular breviary: they wore at church rochets of fine linen, and in memory of the queen, their foundress, they held a silver sceptre in their hands during the office and Divine service." (De Vertot, vol. i. p. 94.)

Small Monasteries surrounding the Holy Sepulchre.—The Convent of Abraham, which may be considered to communicate with the Church of the Holy Sepulchre, is a mass of small chambers and inconvenient staircases of a poor, squalid description, and without any particular interest. The Chapels of Abraham and of the Apostles, within the monastery, have already been referred to in the article on the Holy Sepulchre Church.

The new Russian Hospice and Church of St. Constantine and their precious archæological contents belong to the description of the Martyrion (*vide* Journal R.I.B.A., 27 Aug. 1910).

The Abyssinian village of mud huts, occupying the ancient cloisters of the Augustinian Convent, is naturally more curious than anything else, and the Coptic buildings are modern and entirely without interest beyond the fact of their preserving the former arrangements of historical buildings which once occupied the site.

These properties, mostly of a very squalid and deplorable appearance, are souvenirs of a former age, when every possible coign of vantage was secured by strenuously contending sects of Christians in defiance and in emulation of each other. The names of some of these small monasteries have changed at different periods, and there would seem to have been at one time a small monastery dedicated to the Trinity which occupied the south-western corner of the precincts.

ST. ANNE'S.

The present church, which is certainly one of the best preserved of the Crusaders' buildings, in spite of a very complete restoration, is supposed to occupy the site of a much older building, of which, however, no actual records survive beyond the cave chapels, forming a kind of crypt of a rock-cut kind.*

The history of the present building begins with the year 1104, when the site on which it stands was secured for the purpose by Arda, the repudiated wife of Baldwin I. The unfortunate queen here established a convent of Benedictine nuns, amongst whom she secured for herself

* *Vide* Quaresimus, vol. ii. p. 103.

a retreat. We hear of this convent again as serving for the home of another princess in 1130, when Judith, daughter of Baldwin II., here took the veil and remained an inmate, whilst the Abbey of Bethany was being prepared for her reception by her sister, Queen Milicent. The only name of an Abbess of St. Anne's which survives is that of Sebilla (1157).*

After the occupation of Jerusalem by the Moslems in 1187, the property of the former Benedictine nunnery was appropriated to the use of a Moslem "medresse," or school attached to the great mosque of the adjoining enclosure. A long Arabic inscription recording this fact is inserted in the tympanum of the west doorway of the church. Bohaeddin, the secretary and biographer of Salah-ed-din, was its first principal. Together with the building of the Abbey, the numerous shops within the covered bazaars of the city, which still bear on their walls in many places the name "Sancta Anna" in Gothic lettering, were handed over to this new foundation. In later times the institution seems to have decayed, and all the buildings within the convent precincts, with the exception of the church, became mere ruins. An attempt at restoration was made by the Turks in 1842, but eventually the whole property was abandoned and handed over to Napoleon III. in 1856, after being first offered to Lord Palmerston as a "backshish" at the conclusion of the Crimean War.

On the French Government becoming the owners of the ci-devant Moslem school, a clearance of the ruins seems to have been immediately effected, and the ancient church, which was in a remarkable state of preservation, was taken in hand by a M. Mauss, "Architecte Coloniale du Gouvernement." M. Mauss was an intelligent and sympathetic worker in the then enthusiastically studied Gothic style, and the restoration of the church could hardly have been entrusted to better hands at that period.

De Vogüé, who was in Jerusalem in 1860, on the eve of this restoration by M. Mauss, seems to have been apprehensive (perhaps justifiably) of the result, and says: "Nous l'aimons mieux pauvre et délabrée, que défigurée," a sentiment worthy of the Society for Protecting Ancient Buildings of the present day. The result has, however, been much better than might have been anticipated, as far as the restoration of 1860 is concerned.

The church, of a cruciform construction, but square in plan, consists of a nave and side aisles, all three terminating in semicircular apses with a transept, one bay removed from the east wall, over which rises a central dome, the transept and nave vaults being equal in height, and the clerestory occupying the usual position in nave and transept. This type of church seems to have been a common one during the twelfth century; in Jerusalem the Cœnaculum Church seems to have been the same plan, as was also that of La Madeleine, and very possibly the great Church of St. John at Sebaste may have been an enlarged copy of the same plan and construction, although De Vogüé throws some doubt on the presence of a dome.

The architectural details of St. Anne's, which are almost entirely confined to the interior, are the simplest. Pointed arches of square section form the nave arcades and the secondary arches of the barrel vaults, and the only attempt at sculpture or mouldings about the building is confined to the corbels carrying the vaulting and to the capitals of the half-round pier shafts. The vaulting is absolutely plain cross-vaulting without ribs. The general effect of the interior is both imposing and elegant, in spite of its almost meagre simplicity—a simplicity supposed by De Vogüé to be derived from the influence of St. Bernard, whose interest in Jerusalem at the time when St. Anne's was being built is evinced by his correspondence with Queen Milicent. The Cistercian Abbey of Boschaud (1154) is singularly like St. Anne's both in design and detail.

St. Anne's may be considered almost as the type of all the genuinely French Gothic churches of Palestine during the twelfth century, and a very good example of the style. That

* Pauli, *Cod. Dip.*, i. 204.

it should become once more the property of the French nation is highly appropriate under the circumstances, and its restoration in the 'sixties of last century was most fortunate. At the present day French architecture in Jerusalem seems to be at a deplorable ebb, as may be seen by such buildings as St. Stephen's or the Hospice of Notre Dame. The same degraded taste has even penetrated the severe and beautiful interior of St. Anne's in the form of a miserably designed baldachino over the high altar. This disfigurement to the building was erected in 1895, otherwise the interior seems not to have been touched since the time of M. Mauss.

FIG. 5.—CAPITAL FROM ST. SEPULCHRE NOW PRESERVED AT ST. ANNE'S.

Until the occupation of the property by the French a curious "Holy Site" of early and mediæval interest appears to have been lost sight of. This is the "Piscina Probatica," or Pool of Bethesda. It is an oblong cistern of great depth, which has at one time been covered with a small chapel about 4 by 6 metres in dimensions, having a semicircular apse at the east end. The remains of the chapel may be traced in the course of the apse and in the side walls, but nothing of an architectural character survives except some faint traces of a fresco on the west wall. Neither date nor history of this small building seems to have been recovered at the present day.

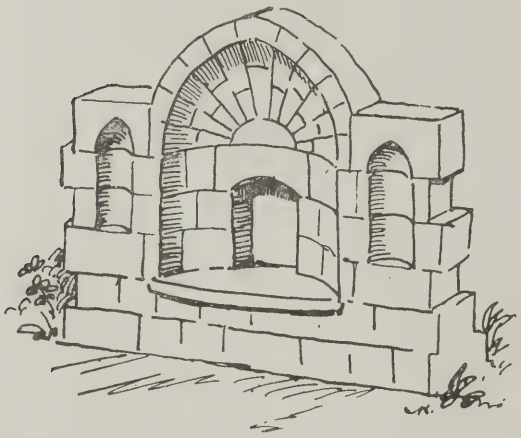


FIG. 6.—NICHE OF UNKNOWN USE, NOW IN THE GARDEN OF ST. ANNE'S, REMOVED FROM THE CHURCH OF ST. SEPULCHRE.

A curious fancy possessed the pilgrims of the last few centuries that a subterranean passage led at one time down from the Church of St. Anne within the walls to the underground Church of the Virgin's Tomb in the Valley of Jehoshaphat. Such an idea originated in the fact of certain blocked-up excavations underneath the Church of St. Anne being but partly known. These subterranean chambers have been fully cleared out recently and fitted up as modern "Holy Sites," with different names. In the course of these explorations some traces of a Roman house upon the site have come to light.

THE CHURCHES OF THE VIA DOLOROSA AND OF THE MOSLEM QUARTER.

In 1860 De Vogüé was able to make an interesting series, in his *Eglises de la Terre Sainte*, of the small churches of this district, one or two of which no longer exist as he saw them. The church of *St. Mary Magdalene* has entirely disappeared, a modern Moslem school occupying its site. In De Vogüé's time the apse and the western end, which were of imposing proportions, remained; and a mediæval legend identified the ruins with the house of Simon the Leper. The neighbouring chapel of the *Nativity of the Virgin*, a small shrine, measuring only 3.25 m. by 5.0 m., was intact in 1860; it has since been completely rebuilt.

Another small chapel, a mere square chamber covered with a pointed dome, but apparently of mediæval construction, is described by De Vogüé as within the Turkish barracks. In the time of Quaresimus this little building was in use as the kitchen of the soldiers; it appears to have been originally dedicated to the *Crowning with Thorns*, a dedication afterwards removed to a chapel within the Church of the Holy Sepulchre, and now once more removed back to a site on the north side of the Via Dolorosa (see below).

On either side of the Via Dolorosa were formerly remains of chapels called the *Prætorium* and the *Flagellation*. The first of these has completely been lost to sight; the second was used until 1838 as a stable for the Pasha's horses, it was then sold to Duke Maximilian of Bavaria together with some neighbouring property, and now serves as a succursale to "Casa Nova." The chapel, which may be a rebuilding of a more ancient structure, is in the poor and vulgar taste of the period. Within the same compound is another small chapel (which has been identified under the name of the "Crowning with Thorns") recently built on the foundations of a mediæval building in a very skilful and tasteful manner, and at a considerable expenditure. The square vaulted interior, with a small central dome, is supported by four monoliths of Bethlehem red stone, and the whole interior is curiously and successfully decorated with stones of local origin and of the most varied colours. The architect is a certain Herr Wenderlin, who has resided for some years past in the Holy Land.

St. Peter.—On the height of the Moslem quarter stands a mosque with its minaret, which is in reality a very well-preserved twelfth-century church of the smaller variety. From the extreme plainness of its construction and its good preservation, it has been supposed to be of even a later date than the crusading kingdom, but it closely resembles the smaller of the two churches within the Armenian convent, and the identification by De Vogüé under the name of St. Peter is probably correct. From an architectural point of view it possesses but little interest, due to the absence of any carved or moulded detail. It is enclosed within a mass of poor tenement houses—as when De Vogüé saw it in 1860—which prevents any inspection of its outside.

The mere "Stations" of the Via Dolorosa have varied with the lapse of years since it was first instituted. One or two modern churches have been built to enshrine such points as a portion of the "Ecce Homo" arch, the "Porta Judiciaria," &c. The church of the *Ecce Homo* is an elegant little structure in the sober but indefinite style adopted by some French architects of the middle nineteenth century. It was designed by M. Honoré Daumet and was completed in 1875. One of the two lateral passage-ways of the old triumphal arch, which for so many centuries has stood at this point as a famous landmark of the Holy City, has been ingeniously made to serve as the niche-like east end, containing the high altar of the church.

The old Roman or Byzantine triumphal arch which has thus been used up in the modern church is a singular and unidentified monument of some event in the history of Jerusalem, the memory of which is completely lost. It has been suggested that the famous triumph of Heraclius on his return from the Persian War, bearing the relic of the True Cross, may here be commemorated. The architectural style of the arch is of such a very ordinary and common Roman description that it might belong equally well to any period of the Empire. The high central opening through which the Via Dolorosa passes is now covered by a mere arch reduced to the inner ring of voussoirs, above which has been built a small chamber (shown in the oldest representations). The southern of the three openings has disappeared within the construction of a squalid-looking property at the side of the road which apparently forms part of a convent of Dervishes, and, although the northern of these two passage-ways is well preserved within the Church of the "Sœurs de Sion," its history is still further obscured by an inscription seeking to identify the relic with some part of the Gospel story, for which there is, of course, no kind of foundation.

In seeking to identify this monument with some historical event in Jerusalem history, it must be borne in mind that such structures do not necessarily commemorate the triumphal progress of an emperor. In the present case the general appearance of the relic suggests the third or fourth century. The remains are too much mutilated to allow of an exact realisation of its original design, which may have been of a somewhat plain description without the usual side columns.

One or two smaller shrines, such as the *House of St. Veronica*, whatever their history has been, have passed through such vicissitudes since the Middle Ages, and are now so modernised as to be entirely without interest of an archæological kind. About midway between the "House of St. Veronica" and the "Sœurs de Sion," at a point where the Via Dolorosa makes a sharp turn, is a large modern church built by the Catholic Armenians. It is a building with certain pretensions to architecture which have not been realised in its completion.

THE CHURCHES ON THE NORTHERN SIDE OF THE CITY, WITHIN THE WALLS.

Around the "New Gate," an entrance into the city made about 1880, are grouped the principal modern Latin or Roman Catholic buildings of Jerusalem. The large Latin Patriarchate was built about 1850, and its chapel is a curious monument of the "Strawberry Hill" Gothic of that period. To give an idea of its general appearance, one need only say that its windows appear to be filled with cast-iron tracery painted white, and its vaulted ceiling is painted with nondescript angels seated on clouds.

The great Franciscan Convent of St. Salvador, with its attached hospices and innumerable dependencies, is, as its popular name of "Casa Nova" implies, a creation of modern days. The Franciscans were compelled to abandon their ancient home on Mount Sion at the beginning of the sixteenth century, but the church and buildings of "Casa Nova" are evidently not earlier than the end of the eighteenth century (date on principal door of church), and it is perhaps singular that no traces of any earlier building remain about the site, although the property is said to have been purchased from the Georgians in 1561.

The church dedicated to St. John the Divine is a large three-aisled building of common pseudo-Classic design, gaudily decorated in the old-fashioned Italian manner with scagliola and gilding. The whole building, with its very uninteresting interior, looks quite modern, or a very complete "restoration" of about 1860. The only curious thing about this church is that it is built above a high range of vaulted apartments, used as cellars and offices, so that the visitor has to ascend to the upper level by an important staircase. This peculiarity, which does not seem accounted for by the nature of the site, may perhaps be intended to recall the "Upper Chamber" of the Cœnaculum, from which the Franciscans were ejected in 1549.

The vast premises belonging to the Franciscans have an air of modernity, and amongst the busy workshops and educational institutions of the community it would be vain to look for much of an archæological character.

The north-west quarter of the city has doubtless always been, more or less in successive ages, the home of the different Christian sects which have been allowed to form settlements within the walls. Here the Greek Orthodox may have established their small monasteries at a remote period, naturally selecting the corner of the city nearest the Holy Sepulchre, and farthest away from their doubtful friends and fellow-citizens—the Moslems. There are about 20 small monasteries and hospices belonging to the Orthodox Church within the area of this quarter of Jerusalem, and some of these institutions probably date back to a considerable antiquity.

The small Orthodox monastery, often inhabited by a solitary monk (a true monachus) or hermit, is often intended to serve the purpose of a hospice for pilgrims, and in the case of a majority of these institutions in Jerusalem they were built solely for this purpose. Most of them contain chapels or oratories, and although divided up into so many different small properties—mere small private houses to all intents and purposes—they are to some extent under the general management of the Patriarchate. Little if any interest attaches to any of them. They are without any architectural character, and have evidently been built or rebuilt—without exception—within comparatively recent years. Even the residence of the Patriarch, which

is surrounded by these small monasteries, contains no feature which could be deemed characteristic or of any historical interest. The private chapel of the Patriarchate, dedicated to St. Constantine, is a small vaulted chamber decorated with a common modern iconostasis and perfectly uninteresting.

The artistic efforts of Eastern Christians during the past few centuries hardly call for criticism from a European standpoint. Such poor attempts to build or rebuild churches, which they may have been permitted to occupy after the final Moslem occupation of 1245, are on so small a scale and of so squalid a style as to be beneath notice. Even the furniture and icons of these little buildings impress the visitor with a sense of poverty, both physical and mental, which is really distressing. In hardly one of the native churches of Jerusalem is it possible to find anything which can be deemed a work of art in the ordinary acceptation of the word, or any historical monument of an interesting kind of a date subsequent to the few traces remaining of Crusaders' work of the twelfth century.

The Churches of the Great Armenian Convent, or Quarters.—The history of this immense institution, the largest enclosure of a conventual kind in the city, is somewhat obscure. It is said to constitute property purchased by the Armenian community from the Georgians in the early part of the fifteenth century. The Georgians were at one time among the wealthiest and most influential of all the Christian sects in Jerusalem; but as the nation declined in its far-distant mountain home, so did also its representatives in the Holy City. The Greeks and Armenians gradually bought up all their convents and property.

The Georgians, or Iberians, were an obscure race inhabiting a region around the south-west corner of the Caspian Sea. They seem to have professed a Christianity very similar to that of the Armenians. They came into prominence as settlers in Jerusalem after the Latin dominion had come to an end, and for about a hundred years they occupied so important a position in the Holy City as to be appointed "Custodians of the keys of the Holy Sepulchre," according to the statement of Ludolph von Sudheim (1340).

At the present day Georgia is a country which has long since been absorbed into the Russian Empire, and its very name has ceased to be geographical.

It would be difficult to identify any of the buildings within the immense compound of the Armenian Convent as Georgian. Some parts of these rambling premises may be as old as the fifteenth century, but the paucity of architectural detail precludes identification. The two churches—St. James the Great and the House of Annas—are certainly mediæval in origin, and retain many portions of crusading building.

St. James the Great.—This is a lofty three-aisled building with a central dome or cupola, and a women's gallery constructed in masonry at the west end. The central cupola is curiously constructed of intersecting arches carrying a lantern—in other words, the *construction* is not domical. Into the walls and piers carrying the vaulting are inserted carved capitals of the twelfth century, evidently re-used from some other building. The walls are covered with the beautiful blue and white faïence usually known as "Persian tiles," a style of mural decoration which dates from the sixteenth century, which is also probably the date of the rebuilding of the church. The flooring in richly coloured local marble and the magnificent screen-work of precious woods, inlaid with ivory and madreperla, are all also of this date. There is nothing special in the arrangements or decorations of the church to distinguish it from the usual Armenian style in which it has evidently been rebuilt, but on its south side is a large doorway leading into a vaulted side chapel or narthex, which appears to be of mediæval character. Its richly moulded arch, carried on twelfth-century nook shafts and capitals, is of quite a different style from the main church. This imposing doorway is, however, the only portion remaining from the original building, and it appears to be *in situ* although its position is singular. On the opposite side of the main church is a large vaulted hall or vestry with an altar on the usual

platform of the Armenian ritual. This large chamber is especially rich in mural tile decorations of the very beautiful blue and white variety.

As already remarked, this church of the Armenians replaces an older building on the same site of the twelfth century, which must have probably resembled the type of St. Saviour's, Beyrout, to judge by the large capitals of square piers with attached shafts which have been re-used in the same position, but on much loftier square piers, to support the vaulting over its three aisles.

The House of Annas, the High Priest.—This traditional site seems to date from the crusading epoch. There is nothing of an historical or early character attaching to the small convent, which has, however, a venerable and picturesque appearance, and one of the prettiest little churches in Jerusalem. Its charming interior of a well-proportioned nave, with shallow side aisles, supported on square piers carrying nave arcades and clerestory, is probably to a great extent modern rebuilding of the same date as the larger Armenian church, but the west door and spacious narthex are apparently mediæval. The characteristic blue-tile mural decoration is lavished on the interior.

This little convent is also known as the "Convent of the Olive Tree," and was used formerly as the female hospice of the Armenians.

In classifying this small Armenian church as a "crusading building" it must be remembered that ever since the twelfth century, when the genuine European Gothic style was introduced into the countries of the Levant, many of the smaller Christian churches of various Eastern sects have been built or rebuilt to meet the requirements of the period. But, as a rule, such churches have been built in a style curiously like that of the first Frankish settlers in the land, although many centuries after their time. In this way also additions to genuine crusading monuments are sometimes so much like the original as to deceive even an expert. Certain of the well-known architectural features, such as the cushion-voussoir arch, the elbow-shaped corbel, &c., may be found in Moslem buildings imitated from the twelfth-century style, and naturally such church buildings as the Christians have been permitted to erect during the past centuries are even still more likely to present similar imitated features. The poverty and ignorance of native Christians under Moslem rule have prevented any effort at originality or development, and the idea of emulating the Renaissance or pseudo-Classic movement of Europe was of course quite out of the question, until the modern world of education and more or less political freedom admitted of the atrocious attempts at a kind of "style nouveau" in the very centre of the Jerusalem bazaars. It would be difficult to imagine what the future holds in store as far as the appearance of the native churches is concerned.

SUBURBAN CHURCHES OF JERUSALEM.

Cœnaculum.—This very venerable shrine, known in the Middle Ages as "Mater Ecclesiarum" on account of its being considered the house of the Blessed Virgin Mary and the place wherein the first Eucharist was celebrated by Christ Himself, is doubtless a "Holy Site" of the primitive period, if not of the Apostolic age. It is mentioned by Theodosius, *De Terra Sancta*, of the sixth century. Also at the end of the seventh century:—

> "On Mount Sion Arculf saw a square church, which included the site of the Lord's Supper, the place where the Holy Ghost descended upon the Apostles, the marble column to which our Lord was bound when He was scourged, and the spot where the Virgin Mary died." (*Travels of Bp. Arculf*, 700. Bohn's ed. p. 5.)

Bernard the Wise (867) speaks of the church on Sion where the Virgin died as being called the Church of St. Simeon, where our Lord washed the feet of the disciples, and where was suspended His crown of thorns.

Benjamin of Tudela's famous story of the discovery of the treasure caves or tomb of King David somewhere on the slopes of Mount Sion is, in all probability, associated with the church

in question. A restoration of the building seems to have been in progress, and we have a contemporary description of this building by John of Wurzburg. It appears to have been the usual three-aisled church with three semicircular apses; that on the north, commemorating the death of the Blessed Virgin Mary, possessed a marble ciborium, and was protected by an iron grille; that on the south was called "Galilee of Mount Sion," and was considered the place where Jesus Christ appeared to the disciples after the Resurrection. In the principal apse was the place of Pentecost, and beneath it in a crypt the chamber of the Pedilavium. The upper church was vaulted and with a central cupola (probably resembling St. Anne's), and on the south side was the "upper chamber," or upper story of the south aisle, from which a staircase descended into the south apse called the "Galilee of Mount Sion." Chapels of St. Thomas and St. Stephen seem to have been added in the twelfth century.

During the crusading kingdom a convent of the popular Augustinian canons was established under the name of "S. Marie de Mont Sion et du S. Esprit," and the names of the following priors are preserved:—

Arnold	1117	Enguerrand II.	1160
Enguerrand	1155	Renauld	1169
Gautier	1158		

In 1187 the buildings of the convent and its church were presumably ruined, although within the walls of the city at that date, and so they remained for over fifty years.

"Ecclesiarum matre S. Syon" (G. de Tyr. I. XV. c. IV.) was the popular name of this church at the period of the Crusaders. All the churches built on this site have preserved the idea of the "upper chamber" in a doubled-storied building, and the earliest representation is that of a simple parallelogram in the *Travels of Arculf* (A.D. 700).

The present remains of the church date from about 1342, when the Franciscans were first permitted to occupy the site. They consist of an upper and a lower chamber measuring 14 metres by 9 metres. Each story is divided into two aisles by an arcade of three arches carried on two columns and two semi-columns in the end walls. The capitals of these columns are in elaborate fourteenth-century foliage, and receive the arches and ribs of the six cross vaults. The capitals of the lower story appear to be uncarved. Three windows exist on the south side of each story, and a staircase at the S.W. corner of the monument affords communication between the stories and the entrance courtyard. This church is apparently an example of the later Gothic style in Jerusalem, and was perhaps built by Cypriote masons. The building has suffered much from the ill usage and additions by the Moslems of the sixteenth century.

At the east end of the monument is a small chamber on each floor called the Tomb of David. Below the "Tomb"; above a cenotaph.

In Suriano's *Trattato di Terra Santa* (1484):—

Cap. LIX. Qui si nota de la Chiesia de Monte Syon e de la Capella de lo Spirito Sancto.

Da le fondamenta de la chiesia se comprende la sua grandeza la longeza de la qual è cento braza, e cinquanta larga; et era facta in tre navate fodrata tuta de tavole de marmaro finissimo, e lo pavimento era di mosaico. Del qual edificio nulla vi e rimasto excepto la tribuna del l'altar maior, et el Cenaculo de Christo, et la Capella de lo Spirito Sancto. La qual capella del mile quatrocento sessanta, a furor de populo fo butata a terra e scarcata e ruinata: la qual fece rehedifficar el magno Ducha (Philippo) de Bregogna che fo tanto bellicoso, e spese quatordece milia ducati d'oro per farla piu bella che non era prima. E de questa fino che lui vixe, pigliò el governo et la protectione, tenendola fornita de paramenti de brocato; e dava ogni anno mille ducati d'oro per il vivere de li Frati che officiavano questa gloriosissima capella; e in questa devotione perseverò tuto el tempo che lui vixe. Et quando morite ordino che fosse sparato, e cavato el core, fosse portato e sepellito in questa sua gloriosa capella. E cosi fo facto et cum quello forono portati alli Frati sei millia ducati, e questo fo l'anno che fo perso Negroponte. Questa adunque capella, tanto bella et tanto ornata, per invidia et in vituperio de la fede Christiana, iterum a furor

de populo fo ruinata et insieme cum essa forono scargase e rote tute le camare et celle de lo inchiostro interno dentro del loco. E la cason de questa tanta ruina forono li cani Judei, perchè dissero alli Saraceni che soto quella capella staeva la sepoltura de David propheta."

The heart of Duke Philip of Burgundy was never buried in Jerusalem. Owing to the Turkish occupation of Negroponte, the Bishop who was carrying the relic was obliged to pass by way of Rome, where the Pope on hearing of the matter dispensed the Bishop from his pilgrimage, took the 6000 ducats, and buried the heart in St. Peter's.

Fra Suriano, in another codex of the same MS., trusts to the future when the ruined convent would be repaired—"li frati la refaranno, et non haveranno respecto a danari." But within a few years the Franciscans were entirely banished from the place.

In another place (Cap. LVIII.) he speaks of the church in its ruined state :

"in tempo de Christiani la nostra chiesia era tanto grande che conteniva in lei tuti li altri mysterii ; ma al presente tuta e scarcata, excepto una de le ale, dove era el Cenaculo e lo Spirito Sancto. Nel quale loco al presente officiamo e persolvemo le divine laude. Appresso al qual loco i lo monasterio de le Bizoche nostre per spatio de cinquanta braza." This last paragraph refers to the female convent and hospice.

The House of Caiaphas.—A special interest attaches to this venerable sanctuary, because, however modern the present Armenian buildings on the site may be, there seems little doubt that here stood throughout the ages a succession of chapels commemorating the existence of the first Christian Hospice of Jerusalem. It was from the Domus Caiaphæ that the first Christian Pilgrim (*Itinerarium Burdigalense*) set out to explore the Holy City of Ælia Capitolina, and there is no reason to suppose that the exact position of the ancient hospice of nearly sixteen centuries ago has ever been changed.*

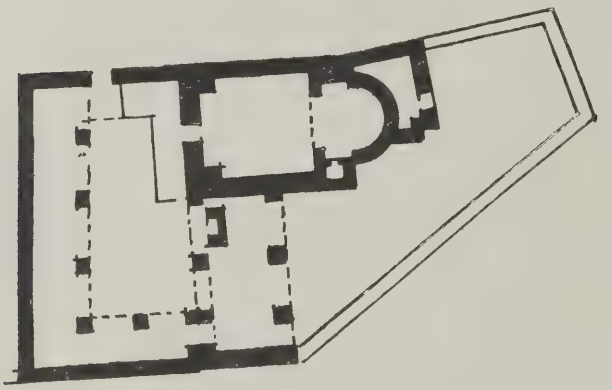


FIG. 7.—HOUSE OF CAIAPHAS, FROM THE PALESTINE SURVEY OF 1864.
Scale $\frac{1}{500}$.

The shrine dedicated to the memory of the Trial of Christ and the affecting story of Peter's denial of His Master seems to have occupied a less important place in the estimation of mediæval pilgrims. It presumably passed into the exclusive ownership of the Georgian Armenian Church at some period antecedent to the Crusades, as there does not appear to be any record of it as a Latin property.

The existing convent, which has the appearance of having been rebuilt in a particularly plain and utilitarian style of the nineteenth century, consists of an upper story of chambers carried on an arched substructure round a very small courtyard, in one corner of which is a small and unarchitectural, and very dark, chapel—a mere square chamber with a semicircular apse. The convent stands surrounded by a great graveyard, one of the series of cemeteries which crown Mount Sion. It would seem to be especially associated with cemetery purposes, for within the arches of its courtyard are many large and elaborate tombs of Armenian ecclesiastical dignitaries of the last century or two.

The New German Church of the "Dormition."—Midway between the "Cœnaculum" and the "House of Caiaphas" is a large and imposing Benedictine monastery enclosing a singular circular domical church. This most important German monument in the Holy City is designed in a Rhenish Romanesque style with an immense dome supported on eight surrounding piers

* "Inde eadem via ascenditur Sion et paret ubi fuit domus Caiaphæ sacerdotis" (Itinerarium, *c.* A.D. 350).

or buttresses with intervening semicircular chapels. The plan is, of course, reminiscent of Aix-la-Chapelle, but the construction is different. The superb mosaic decorations of the interior are advanced but a short way towards completion.

The Church of the Tomb of the Virgin.—From an archæological point of view, second only to the great church of the Holy Sepulchre, this singular little monument is perhaps the most untouched relic of a remote past to be found in or near Jerusalem. The drawing by De Vogüé made more than fifty years ago shows it in precisely the same condition as at present, and that condition seems to have been unchanged since the crusading epoch (?).

The tomb of the Blessed Virgin Mary is first mentioned historically by John Damascenus (A.D. 730), who states that the Empress Pulcheria (390-450) sent to Jerusalem for some relic of the Virgin which she desired to preserve in Constantinople. Bishop Arculf describes a circular church built over the tomb (seventh century), and Bernard Sapiens saw this circular church in ruins (ninth century).

During the crusading period a monastery of the Order of Cluny was established on the site, the first Abbot, Hugh, being appointed in 1117 (De Vogüé). Of this Abbey the only trace surviving is the square chamber at the top of the remarkable flight of steps leading down to the rock-hewn tomb; the fine ramping vault and some portion of the staircase with the two tomb niches half-way down also form part of this same building.

An upper church, which is not very clearly recorded, may also have existed above the subterranean chapel, but no trace of it survives, nor does it seem easy to account for its position in relation to the front of the building as at present constituted.

When the Saracens occupied Jerusalem in the twelfth century they pulled down the Cluniac monastery, to use the materials for rebuilding the city wall. At a subsequent period the Franciscans were permitted to occupy the subterranean church, but they were displaced in the eighteenth century by the Greeks and Armenians who now constitute its guardians.

As will be seen by reference to the accompanying photograph the square building which has constituted the upper church in recent times is evidently the untouched work of *c.* 1117. The moulded arches supported on nook shafts with "Corinthian" capitals are precisely similar in character to the oldest portion of the Gothic work of the Holy Sepulchre. These two buildings—the tomb-houses of the Virgin and of her Son—appear identical in date; they have evidently been carried out by the same masons and the same architect. The stilting of the inner arch reminds one of the same treatment in the doorways of the Holy Sepulchre, the mouldings—a hollow between two rolls—are also precisely similar, but the carved detail of capitals is perhaps more ordinary and less elaborate. Above the outer arch is a row of small brackets which once supported the beams of an outer flat-roofed loggia or porch, of which no other trace now remains, or they may have supported a cornice somewhat resembling the main string-course of the Holy Sepulchre front; the gable above has been rebuilt.

Within, the building, with its impressive gloom and mystery resulting from an almost entire obscurity, has also an appearance of singular preservation. The vulgar frippery of Eastern church ornamentation is fortunately invisible in the darkness, and it is evidently thought useless to waste the usual display of hideous icons and childish toys in a place where such evidences of taste would be lost to view. In recent centuries pilgrims have noted the presence of inscriptions and verses painted on the sloping vault of the staircase and on other parts, but at the present day nothing of the sort remains.

The entrance porch has a blocked-up window on either side, apparently without mouldings. The vaulted crypt at the bottom of the stairs is without any architectural character, and the actual tomb of the Virgin is now reduced to a mere fragment of rock. Half-way down the staircase are two recesses containing tombs, one on either hand. That on the east side is

coeval with the building of the church, it consists of a plain arch about 8 feet wide and 6 feet in depth, ornamented on the side towards the stairs with voussures of a regular size, panelled on the face. Within this recess is a plain altar tomb placed north and south with a small altar on the north side. These two structures are now known as the "tombs of Joachim and Anna," but in reality this little chantry contains the tomb of Queen Milicent, widow of Fulk of Anjou (*dec.* about 1155). Possibly the altar of the Queen's chantry may have been dedicated to the parents of the Blessed Virgin Mary, and hence the modern appellation. It would seem probable that the Queen's body may still rest undisturbed within this chantry, although the iron

FIG. 8.—TOMB OF THE VIRGIN, JERUSALEM.*

grille in front of it, mentioned by William of Tyre, has been removed, and both the tomb and the little side altar have been covered over to some extent with woodwork by the modern Armenians.

There would seem to have been another staircase descending to this crypt on the north side corresponding to the existing one on the south, but there is no record of its use, it merely shows on the plan of the building and is blocked.

The Churches on the Mount of Olives.—The principal ancient shrine of Olivet is the site of the Ascension. Here a church-enclosure, very similar to the circular shrine of the Anastasis in general idea, was constructed during the Constantinian epoch, and seems to have been

* This, and the illustration at the head of this Paper, are reproduced from photographs kindly lent for the purpose by the "American Colony," Jerusalem.

called IMBOMON (*vide* St. Sylvia). The late Herr Baurath Schick published a set of plans, with a lengthy account of his investigations on the site in 1895, in the *Palestine Exploration Fund Quarterly Statement*. His conclusions were apparently correct and agree with most others who have studied the subject.

The ancient circular church-enclosure, over 100 feet diameter, seems to have completely resembled a circular *impluvium* of the Roman style of architecture; a colonnaded court with a series of chambers on the outside forming an outer ring of walls recalled the usual house construction of the period. Of this, of course, hardly a trace remains at the present day, but Herr Schick seems to have identified the general plan from evidences in the later buildings on the spot, and from the position of the "Grotto of St. Pelagia," a partly rock-hewn chamber which may have formed a partial crypt at the west side of the buildings.

The Church of the Ascension has been exposed to all the destructive circumstances which have arisen from time to time in the history of Jerusalem, it is therefore not surprising that even fewer traces remain from a remote antiquity than in the other great primitive shrine of

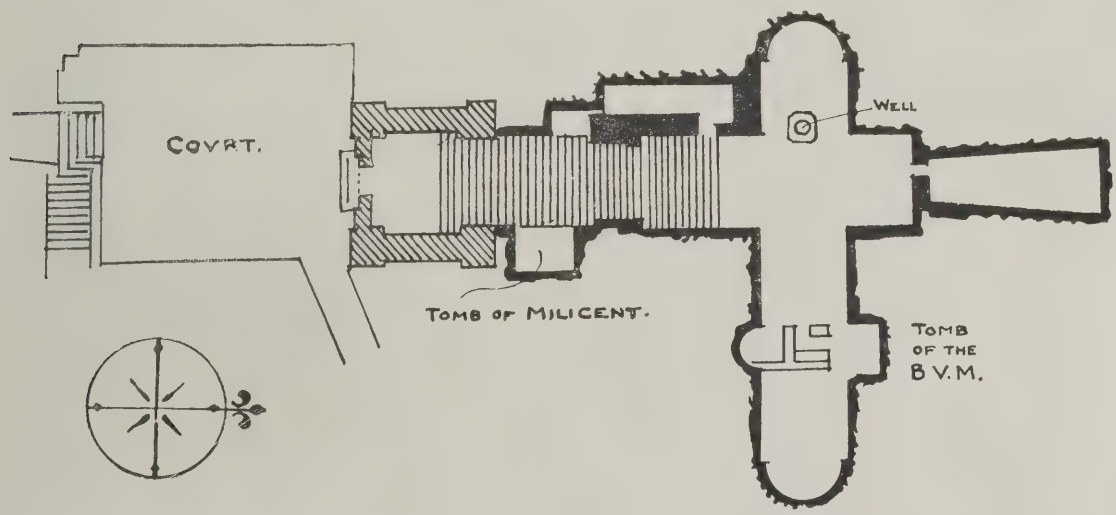


FIG. 9.—TOMB OF THE VIRGIN, VALLEY OF JEHOSHAPHAT.

the Holy Sepulchre. Successive churches have been built upon the site until the coming of the Crusaders, who seem to have erected a sort of copy of its primitive form, but on a reduced scale. At the present day a few bases of piers with engaged columns are the only souvenirs of the circular church in its latest form; everything else has completely disappeared.

In the centre of the modern irregular enclosure (used as a mosque, and at the same time with occasional services held by different Christian sects within its walls) is the Kubbet enclosing the holy stone of the Ascension footprint. This Kubbet has a certain architectural interest. It has all the appearance of being the work of mediæval Christian masons, but of a period subsequent to the twelfth century. De Vogüé thought this to be Moslem work, with perhaps some details of the ancient crusading church used up in its construction. To the present writer it would seem more probably of the same period and workmanship as the "Upper Chamber" of the Cœnaculum, which is usually attributed to the period of Frederick II. in Jerusalem, and is supposed to be by Cypriote masons. This little monument is remarkably well preserved, and forms an interesting example of the small class of religious shrines shared in by Moslems and Christians with apparent perfect harmony.

The earlier Church of the Ascension built by the Crusaders, of which so little now remains, is described by John of Wurzburg (1170) :—

"Hodie exstat magna ecclesia in cujus medio magno foramine quodam aperto designatur locus Ascensionis Domini."

Sæwulf (1102) apparently describes the site as it stood before the Crusaders' building very much as it appears at present.

The primitive church-enclosure built in the fourth century and restored by Modestus is described by all the earlier pilgrims. It seems to have been illuminated with lamps on the great festival of the Ascension in a manner very impressive to the feelings of Arculf, Willibald, and others—an illumination of Olivet which is still practised by the modern Orthodox. At this earlier period the footprint of Christ was surrounded by a bronze screen the height of a man, instead of being covered with anything resembling the modern "Kubbet."

Eusebius, Bishop of Cæsarea, alludes in the course of his description of the place of the Ascension to a cave as the real spot where the Saviour initiated the Apostles into the mysteries of their religion, and from which He ascended. (Euseb. *Vita Const.* III. 41, and *Demonst. Evang.* VI. 18.) This cave is probably the ancient tomb or cistern cut in the rock, now known as the Chapel of the Creed. Above this cave was built at some doubtful period an early Christian church, with its narthex immediately over the crypt, and its three aisles to the east of it. Only rough traces of the walls of this church and some portions of mosaic flooring in the *diaconicon* remain; they have recently been unearthed, but possess no particular interest.

The Ancient Crypt of the "Creed," with its Byzantine church ruins, is now within the enclosure of the French Carmelite Convent of the Lord's Prayer. This institution is built to the east of the ancient remains, and is of some architectural and historical interest amongst the modern ecclesiastical monuments of the Mount of Olives. It appears to have been founded about 1875 by the Duchesse de la Tour d'Auvergne, an eccentric lady who at one time resided on Olivet and had the intention of being buried within this little cloister which forms the approach to the small chapel of the convent. The sumptuous marble tomb, with a life-size effigy of the Duchesse, decorates one side of this cloister. The buildings of the convent were originally designed by M. Mauss, the French Government Colonial Architect, who did so much architectural work in Jerusalem during the 'sixties of the last century, but since his time many additions have been made to the premises. The cloistered court, which forms the principal architectural feature of the convent, is to some extent a copy of the cloister of Kulaat el Hozn, the crusading castle in the north of Syria. The work is a lifeless reproduction of the twelfth-century style, the carved details are executed in a mechanical manner by some inferior European mason, and the exceedingly small chapel to which the cloister forms an approach is a bare and characterless interior. The cloister, with its versions of the Lord's Prayer in panels of painted tile-work, is a curious monument to the memory of an eccentric lady, and an example of French Gothic architecture of the revival at the end of the last century which has a unique historical interest from being found in such a position.

Russian Church of the Ascension.—The high campanile attached to this church, which dominates Jerusalem in every view, and can be seen from the Jordan banks and the Dead Sea, was built about 1870. It is over 150 feet high to the metal spire which crowns its summit. Without any particular architectural character it serves its purpose as an inoffensive landmark —the purpose for which it was built—and owing to the large openings in its sides, which detract from its really large scale, it looks much smaller than it really is. Close to the foot of this immense tower is a pretty little Russian church of a very plain design, cruciform in plan and covered with a central dome and the usual semi-domes over the four arms of the cross.

Russian Church of Gethsemane.—This is quite one of the most remarkable modern monuments of the Jerusalem suburbs. It was built about 1880 and completed with various adornments and the marvellous gilding of its bulbous cupolas in 1895. It is a sheer importation of the peculiar Moscow style of church which is supposed to originate in the Tartar tent church of primitive times (*vide* Neale's *Russian Ecclesiology*). Its general design is a cruciform interior of great height and domical construction supported on four corner towers. Externally the upper part of the walls between the towers are carried inwards in tiers of small dormer windows arranged like the steps of an Indian temple. The centre part of the building finishes in a great onion-shaped dome, and the four surrounding towers are also crowned with similar but smaller domes. The five domes are entirely covered with heavy gilding, which seen at a distance is sufficiently conspicuous, and at the same time affords a strange contrast with the surrounding tombs and the grey walls of the city.

Like the Russian churches which are familiar to most tourists on the Continent, standing in strange contrast with their surroundings of a French or German city, this Church of Gethsemane has a strangely foreign look, although one might expect its Asiatic character to harmonise with a Syrian landscape and climate.

The Church of the Pool of Siloam. (See Mr. Archibald Dickie's Paper read before the R.I.B.A. 6th March 1899.)—This most interesting building, which was laid bare by the Palestine Exploration Fund explorers Bliss and Dickie in 1896, has unfortunately been completely covered up again by order of the Turkish Government, for fear that a desire to possess the Holy Site might lead to fresh contentions and troubles between the Christians. For some unexplained but probably similar motive the Turks have built a small minaret adjacent to the spot, giving as it were an additional Moslem ownership to the place. The ruins as described by Mr. Dickie can, therefore, only be studied with the aid of the excellent drawings published in the JOURNAL of the R.I.B.A.

The famous Siloam Tunnel, which forms a part of the ancient construction of the Siloam Pool, seems now to be in the hands of a very mysterious party of young Englishmen who have obtained a firman for exploring the site of the tunnel and the "Virgin's Spring." These gentlemen, according to all reports, are interested chiefly in finding some supposed treasures on the site, but in any case they may light upon something of an unexpected character in the mysterious ramifications of the still unexplored "underground Jerusalem."

The Modern Buildings outside the Walls of Jerusalem.—The enormous influx of pilgrims and tourists into Palestine since the middle of the nineteenth century has naturally produced a remarkable demand for religious buildings in the Holy City. The value of property, fluctuating according to circumstances of political and missionary developments, has arisen within the past fifty years from francs to napoleons—one might almost say from centimes into napoleons. Fifty years ago a piece of land without the walls which was recently sold for £3,000 cost sixteen napoleons. In almost the same proportion the properties within a radius of perhaps a mile of the city have risen from a mere agricultural value into a fabulous estimation. Of course every square inch of land within the old walls is at the present day almost unsaleable owing to the competition of religious factions and the difficulties of transferring title. Many persons, Jew bankers and others, who invested a few pounds in properties about the middle of the nineteenth century have long since retired with fortunes.

About the time of the Crimean War (1855) the Sublime Porte seems to have been induced to present a large area of ground, formerly used as the "Meidan" of the Jerusalem garrison, to the Russian Palestine Society, an institution supported by voluntary contributions in Russia for the regulation of the gigantic pilgrimages of Russian subjects to the Holy Land. This property was secured with a high wall and four great iron gates, and within the enclosure a

small cathedral-like church and some barrack buildings were erected. The church is a very plain and unpretentious example of the Petersburg type with a central cupola and western bell towers, and like its surroundings of a purely utilitarian description. The group of buildings owes all the effect which it possesses to the commanding site on which it stands, but is entirely devoid of architectural character.

Ever since the building of this great Russian hospice the different nations of Europe seem to have vied with each other in erecting immense blocks of buildings, very few of which can be considered satisfactory additions to the modern city springing up without the walls to the north. The French Hospice of Notre Dame de France is the most pretentious and most unsatisfactory of what may be called the native productions, *i.e.* built without any European architect. But in poverty of design and total absence of all keeping with its surroundings perhaps the great German Hospice of St. Paul near the old Damascus Gate is even more successful. School buildings, Protestant chapels, hospitals, &c., all the constituent institutions of a large and remarkably mixed community are coming into existence daily, and they are all marked with a singularly commonplace utilitarianism, which is also conferred upon the religious buildings in suburban Jerusalem. In this northern district of the city the only group of buildings which can lay claim to any serious architectural character is the Anglican College of St. George, built by the present writer (1895-1910).

The Dominican Church of St. Stephen, near the Damascus Gate, is a poor meanly built modern church, of which the original design by M. Boutard, of Paris, made in 1885,* may have possessed some merit as a copy of one of the remarkable primitive churches in North Syria; but as carried out by the Dominican friars in Jerusalem the result is quite deplorable. The exterior is devoid of architecture, and the interior is a *mélange* of cheap Parisian religious art and poor construction. It is regrettable that this church replaces the interesting ruin of an early basilica of probably the fourth or fifth century, of which large traces remained so late as 1890.

* Published in *S. Etienne et son sanctuaire*, by Père Lagrange, Paris, 1894. A curious divergence from the design of M. Boutard was made by introducing flying buttresses on the outside, which reminds one that the constructors were Frenchmen, and were not at home in the primitive Syrian style selected by the original designer.

Jerusalem. Inscribed on a tombstone of the twelfth century which was found on the site of Christ Church (English) and presented to the Mediæval Collection at S. Anne's by Bishop Gobat about 1850.

A NOTE ON RECENT CHANGES IN THE R.I.B.A. EXAMINATIONS.

By Reginald Blomfield, A.R.A. [*F.*].

FEW problems in education are more difficult than the examination question. The excrescences of examinations, the parasitical growth of the crammer, and of what is very much worse than the crammer, the incessant manufacture of cramming text-books, are undoubted evils which have led sincere educationalists to the desperate counsel of eliminating all examinations. That, however, in the conditions with which we have to deal, is impracticable, and it remains to be seen what can be done to make examinations a help to education instead of a paralysing poison.

For some years the Board of Architectural Education of the Royal Institute of British Architects has addressed itself to this task of humanising the Institute Examinations and bringing them into touch with education. Since its reconstruction the Board has as the result of much discussion and careful consideration been able to formulate certain important proposals in development of the changes already introduced in the Institute syllabus. These proposals have been accepted by the Institute, and are now to take their place in its educational programme.*

There can be no doubt that, under the methods of examination hitherto in practice, real hardships have existed for students, and I may say at once that this has been due to no fault of the examiners, whose ability and energy, ungrudgingly placed at the disposal of the Royal Institute of British Architects for years past, we all of us gratefully acknowledge. The hardships were due to the old-fashioned method which they had to administer. Everyone knows the danger of what may be called the accidents of examination, of the impossible or even unlucky papers which may hit upon the precise quarter of the subject with which the student is not familiar. In any given subject it is probable that not more than two or three per cent. of the candidates know more than the rudiments. They simply have not had the time to master more, and the least dislocation of the routine puts them out of their stride.

The crammer meets this by a careful assortment of isolated facts calculated to catch one or other of any possible questions; but not only is this knowledge of unrelated facts useless in itself, it is positively mischievous in that it deprives the subject of any reasonable interest,

* Details of the Revised Syllabus are appended to this article and will appear in the forthcoming issue of the Kalendar.

and teaches the student to regard the whole of his training for these examinations as a necessary but deplorable evil, to be forgotten directly the occasion for it has passed.

The results of such a system on the student's outlook on his work is too often disastrous. The type of student-scholar-architect which existed at any rate as late as fifty years ago is disappearing, and the process of degrading the art to a merely mechanical business with a bare minimum of training has made rapid and alarming progress. Thoughtful architects have long been dissatisfied with this condition of affairs, and a serious effort is now made to arrest the evil.

The object in view has been threefold:

1. To give the student a fair chance of getting due credit for the attainments which his own individuality and personal tastes place most readily within his reach.

2. To give the student with special qualifications in any one direction the opportunity of developing his ability on those lines, and of laying a foundation of studies which may lead to high excellence in his subsequent career. If examinations can be so framed as to attain this object, instead of resulting in the injurious waste of the crammer, they will justify their place in any educational system.

3. To raise the standard of architectural excellence, by allowing more scope for design, and freeing examinations from a cast-iron mechanical routine.

The object of the Examinations should be to elicit evidence of individual thought and work on the part of the candidate. For example, the measured drawings with surveys made on the spot now introduced as a testimony of study for the Intermediate Examination, will be first-hand evidence of the student's ability, or want of it, in the observation of facts and their presentation.

Moreover, it will be a valuable training in itself. Even more important, because it is an advance on what has hitherto been done, is the introduction of an organised series of Designs as Testimonies of Study for the Final. The object of this is to recall the student's attention to design and draughtsmanship, as essential elements of architecture, which have been rather left out in the cold in recent years. By the methods proposed for the judgment of these designs, free play is allowed to individual methods and idiosyncrasies, and a healthy rivalry between local centres will do much to improve architectural training throughout the country.

The provision for individual studies speaks for itself. In the opinion of many competent authorities the standard hitherto reached in the R.I.B.A. Examinations has been lower than it should be. On the other hand, it is felt that it is impossible to tighten it up all round. The practice of modern architecture is so complex that a student might spend his whole life in vain in the attempt to master each and all of the special subjects which, in one way and another, come within the range of architecture.

The only fair and reasonable course is to insist on a minimum of technical knowledge, Building Construction, Mechanics, Mathematics, on the one hand, and History on the other, and to allow the student to make up his marks by proficiency in one or the other of the special subjects offered for his choice. The final thesis in which the student will have the opportunity of showing the results of his own research, should be, as Professor Reilly has put it, "a fine and enjoyable exercise summing up his whole student career, and giving him a chance of distinction which the R.I.B.A. will always recognise."

The changes now introduced are in continuation and development of the work begun by the Board of Architectural Education some seven or eight years ago, and mark a further advance in the deliberate effort of the Institute to make its Examinations real and effective, and a valuable asset in architectural training instead of a stumbling-block and a rock of

offence to keen and thoughtful students. Further developments will no doubt suggest themselves as time goes on, but the important work of educational reform to which the Institute has addressed itself in the last few years is one of the surest and most satisfactory signs of its vitality, and a work which will have the sympathy and support of all who have the interests of architecture at heart.

REVISED SYLLABUS OF THE R.I.B.A. EXAMINATIONS

(to come into operation next year).

The Preliminary Examination will remain unaltered.

INTERMEDIATE EXAMINATION.

Testimonies of Study.

Before being admitted to the Examination the candidate will be required to submit the Testimonies of Study Nos. 1, 2, 7, 8, and 9, enumerated in the present syllabus [see KALENDAR]; also either No. 3 (Details of Classic Ornament) or No. 6 (Mediæval Ornament), and, instead of Nos. 4 and 5, sheets of measured drawings of a building, with the plottings and sketches. For these Testimonies marks will be awarded by the Examiners, who will be free to allot a larger number of marks to the drawings than has hitherto been permitted.

In addition to the general subjects of History and Building Construction, students will be required to take a special paper either in some period of History, in Mathematics and Mechanics, or in Elementary Design. An extra day will be apportioned for this additional subject.

One hundred marks will be allotted for the Testimonies of Study.

NOTE.—*The existing Testimonies of Study will be an optional alternative until January* 1914.

Intermediate Examination Time Table. Marks

(A) PRINCIPAL STYLES AND GENERAL HISTORY OF ARCHITECTURE, AND THE PURPOSE OF ARCHITECTURAL FEATURES IN RELATION TO THE BUILDINGS IN WHICH THEY OCCUR :

Two Papers occupying six and a half hours in all 250

(B) CONSTRUCTION :

1. Simple Applied Construction in Elementary Design, and the Properties and Uses of Ordinary Building Materials.
2. Theoretical, including Stresses and Strains.

Two Papers occupying six and a half hours in all 250

(C) In addition the Candidate must select one of the following subjects :—

1. HISTORICAL ARCHITECTURE—showing knowledge of one of the following periods, to be selected by the Candidate :
   - (*a*) Greek and Roman.
   - (*b*) Byzantine and Romanesque.
   - (*c*) French and English Gothic.
   - (*d*) Italian, French, and English Renaissance.
2. MATHEMATICS AND MECHANICS—Algebra, up to and including the Binomial Theorem. —The Use of the Slide Rule.—Plane Trigonometry, including the Solution of Triangles.—Descriptive Geometry, including the Mensuration of simple Plane and Solid Figures.—Simple Conic Sections treated geometrically.—General Statics and Dynamics, including Graphic Statics.
3. DESIGN—dealing with simple subjects.

Paper (in one only of the above subjects) occupying four hours 200

TESTIMONIES OF STUDY 100

Total Marks 800

FINAL EXAMINATION.

Testimonies of Study.

Alternative Problems in Design, set by the Board of Architectural Education, will be published every two months in the JOURNAL of the Institute.

Every candidate for the Final Examination will be required to submit as Testimonies of Study Designs in answer to at least four of the Institute Problems. These Designs, when they have been submitted to and approved by either the Council of one of the Allied Societies or by a Committee of the Board of Architectural Education, will be considered as qualifying the Student to enter for the Examination. Designs so submitted and approved will be marked in the Examination by the Examiners appointed by the Board.

Two hundred marks will be allotted for the Testimonies of Study.

NOTE.—*The existing Testimonies of Study will be an optional alternative until January* 1914.

Final Examination Time Table.

	Marks
(A) DESIGN FOR A BUILDING OR PORTION OF A BUILDING. Two days. At the end of the first day's sitting the Candidate will be required to deposit with the Moderator the original draft of his project, or a tracing of it.	350
(B) CONSTRUCTION, INCLUDING IRON AND STEEL CONSTRUCTION, FERRO-CONCRETE, SHORING AND UNDERPINNING. *Two Papers occupying six and a half hours*	150
(C) HYGIENE, INCLUDING DRAINAGE, VENTILATION, HEATING, LIGHTING, AND WATER SUPPLY.	
(D) THE PROPERTIES AND USES OF BUILDING MATERIALS.	
(E) THE ORDINARY PRACTICE OF ARCHITECTURE, INCLUDING SPECIFICATIONS AND THE LAW OF CONTRACTS. *Three Papers occupying six and a half hours in all—50 marks each*	150
(F) The Candidate must submit a thesis showing advanced and individual work in one only of the following subjects :—	
1. HISTORICAL ARCHITECTURE—implying as far as possible the direct study of actual historical buildings.	
2. SCIENCE, AS APPLIED TO BUILDING.—By this is intended a special study of an application of science to definite problems of building.	
3. DESIGN INCLUDING DECORATION—such as a study in Civic Monumental, Decorative, or other branch of Architectural Design. The subject selected for the thesis is to be notified for the approval of the Board four months before the date of the Examination, and the thesis itself is to be submitted four weeks before the same date. The thesis, which may be either an illustrated essay or a design with a detailed report, will be assessed by Examiners specially appointed for the purpose, who will also examine the candidate orally in his thesis. It is open to candidates to obtain distinction in the advanced work, such special distinction to appear in the KALENDAR	350
TESTIMONIES OF STUDY	200
Total marks	1,200

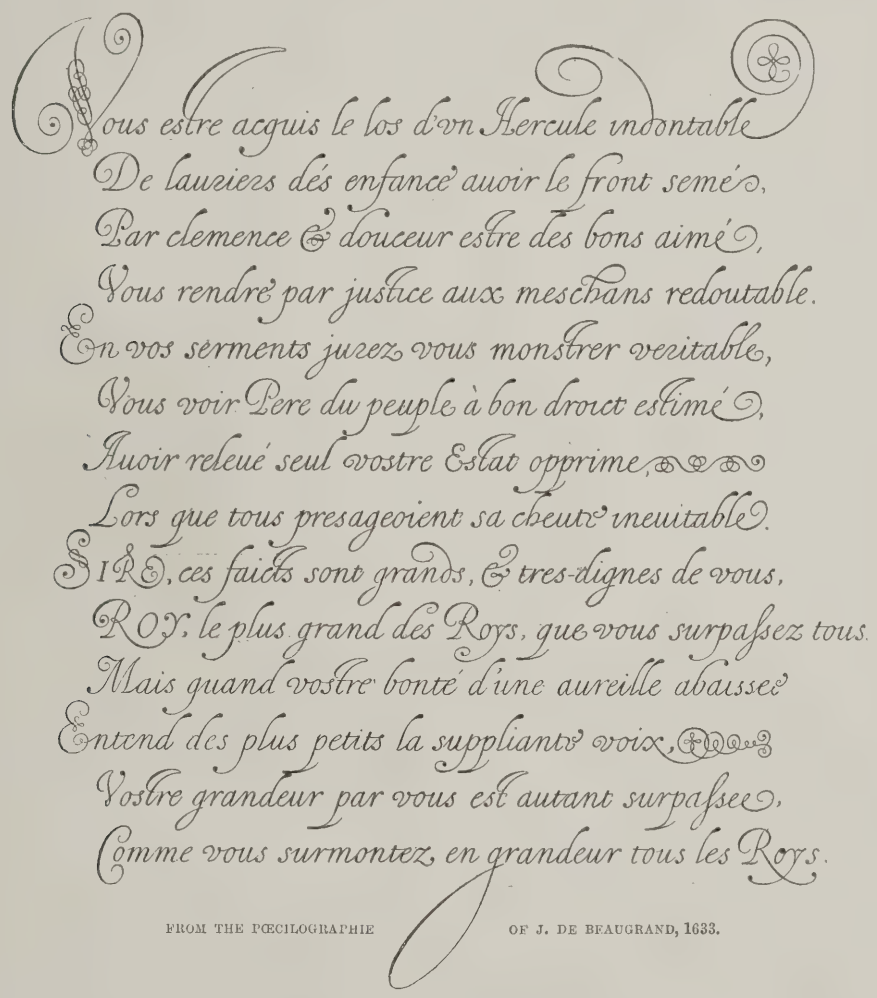
REVIEWS.

PENMANSHIP.

Penmanship of the Sixteenth, Seventeenth, and Eighteenth Centuries. A Series of Typical Examples from English and Foreign Writing Books, selected by Lewis F. Day. With short Critical Notes on Penmanship and the Examples given in the Book, by Percy J. Smith. Crown 4*o. Lond.* 1911. *Price* 18*s. net.* [*B. T. Batsford,* 94 *High Holborn.*]

By the death of Lewis Foreman Day, but a few months ago, this country lost not only the best ornamentist of his time, but one whose studies and history of design, had himself a fertile invention, a wonderfully fluent pencil, and an instinctive as well as trained perception of proportion and fitness. There was moreover a moderation, catholicity, and sanity in all that he wrote on art subjects that give to his writings a quality of fair-mindedness which makes them pleasant to read as well as profitable. He had too the gift of lucidity of expression.

That Lewis Day, like most designers, found a charm in typography and in the ornamental value of writing of various forms, was evidenced by two charming and useful little books which were among



FROM THE PŒCILOGRAPHIE OF J. DE BEAUGRAND, 1633.

experience in that branch of art extended over a remarkably various field. He had travelled much and studied much; but what gave a special value to his study, to his design, and to his writings was his practical knowledge of the methods of production. He was familiar with every detail of the process by which the objects designed were produced, whether textiles, wall hangings, stained glass or enamel work; and while learned in the history of design, had himself a fertile invention, a wonderfully fluent pencil, and an instinctive as well as trained perception of proportion and fitness. There was moreover a moderation, catholicity, and sanity in all that he wrote on art subjects that give to his writings a quality of fair-mindedness which makes them pleasant to read as well as profitable. He had too the gift of lucidity of expression.

That Lewis Day, like most designers, found a charm in typography and in the ornamental value of writing of various forms, was evidenced by two charming and useful little books which were among the later works brought out in his lifetime, by Mr. Batsford. The work on "Penmanship" has a certain kinship with these. It is a "posthumous" work, without notes of his own; yet one can almost recognise in the beautiful examples selected Lewis Day's instinctive recognition of what is fitting and worth bringing together, his sense of graceful line and refined proportion. One may do this while acknowledging the excellent judgment and good

taste of his editors in their final selection, and no less the modesty and value of their notes. Mr. Percy Smith's notes on the examples should be carefully read. They are critical in the best sense, for they not only point out particular features or merits in certain examples, but explain why they should be observed and in what the merit lies.

The art of penmanship is now pursued by few as an accomplishment, as is sufficiently evident in our correspondence. The writing-master is to-day not to be found, like John Davies, as a university man, the friend of poets. His aim is probably limited to the instruction of law-clerks or of those who must write a good commercial hand.

Nevertheless there has been, for some years past, an increased recognition of calligraphy as a decorative art. Even the graphic eccentricities to be seen on some architectural designs are evidence of a desire to use writing decoratively. For all who experience this desire and for all who are interested in any form of the decorative arts this book will be a treasure. The 112 plates of examples from various countries are preceded by a descriptive list of them, giving the source of each; and are followed by an alphabetical list of over forty authors from whose works the illustrations have been selected. Miss Day may be congratulated on having carried out her father's intention exactly as he would have himself desired; indeed one would suppose the book produced under his own eye, for Mr. Percy Smith's critical notes are such as he might himself have appended.

Of Mr. Batsford's share in the work one can only say that it is evident that appreciation and friendship have played no small part in the production of an excellent book with his usual care and taste. It is a book for every architect to possess.

J. D. Crace [*Hon. A.*].

STIRLING AND NEIGHBOURHOOD.

Shearer's Illustrated Historical Guide to Stirling, Stirling Castle, and Neighbourhood. 8o. *Stirling* 1911. *Price* 1*s. net.* [*R. S. Shearer & Son, Stirling.*]

This is a book of about 150 pages containing an illustrated description, with historical notes, of Stirling and round about. The book is in its forty-eighth year, and has stood the test of time and usage, and no appreciation of its qualities as guide book is needed. In places the historical ingredient becomes rather formidable. There is a list extending over nine consecutive pages of events in history connected with Stirling. A mass of facts such as this is very indigestible.

The sections treating of the various buildings of architectural interest in Stirling tell probably all that there is to be told about them. The chapter on the castle is a very good one. The buildings belong to several different periods, the most recent of them dating from 1702. By means of several views and a plan the student may in his mind's eye clear away these later additions and reconstruct the castle as it appeared some four hundred years ago.

The castle in the time of James II. consisted of a residence for the King, and inner and outer courtyards lying to the south-west. James III. built the Chapel Royal, the Parliament House, and commenced to build the Palace in the outer courtyard, on the north, west, and south sides respectively of the inner courtyard. The same King has also been credited, though not in this handbook, with the building of the south wall and fortification of the outer courtyard. In this wall were four circular towers, and a sketch is given showing the probable appearance of these. They are here said to have been built by James IV. The base of one tower and half the height of two others still remain.

The Palace was completed by James V. James VI., grandson of James V., son of the unfortunate Mary Stuart, rebuilt the Chapel Royal. The dates of these reigns are as follows:—James II. 1437–1460, James III. 1460–1488, James IV. 1488–1513, James V. 1513–1542, Mary Stuart 1542–1567, James VI. 1567–1625.

The book also contains shorter notes on Argyll's Lodging, Mar's Work, The High Church, and several other buildings, and descriptions of the Battles of Stirling Bridge and Bannockburn. There are many illustrations, giving a good idea of what the town contains. An illustration of the old houses in Broad Street would be very acceptable, as they are some of the few many-storied Scotch tenements now remaining.

Glasgow. Vernon Constable [*A.*].

CORRESPONDENCE.

An Essential Branch of an Architect's Profession.

6th October 1911.

To the Editor, Journal R.I.B.A.,—

Sir,—I should be greatly obliged if I may trespass on your columns in reference to a subject upon which I feel very strongly, and one which, I think from practical experience, is of vital importance to architects—viz., why it is that furnishers and decorators are frequently called in to complete the internal decoration of a house in preference to an architect.

When I have suggested to those about to spend large sums in decoration and furnishing that it would be advisable to consult an architect, I am frequently laughed at and met with the answer, "What do architects know about interior decorations?" or "I am not going to have my dining room or drawing room (as the case may be) look like a board room in a municipal building."

Now, while this may be an exaggerated view, as some beautiful domestic internal work has been done by architects lately, there is a certain amount of truth underlying these remarks, and in consequence an architect has frequently to take a

secondary position to a salesman from a furnishing house who is *au fait* with this subject, or obtain schemes from decorative firms to assist him.

To my mind, if architects are to hold an unassailable position in regard to this matter, they should be able to design correctly the interior decorations as well as the fabric, and be able to discuss with a client the relative merits of the numerous phases of the English and foreign periods, and suggest suitable schemes.

Though I am open to correction, I do not recollect ever having seen any questions in the papers set at the Examination of the Royal Institute which would induce students to make themselves at all acquainted with the subject. No applicant who has ever approached me for a situation has been at all conversant with this very essential branch of an architect's profession. Even if a paper were not set, I think a *viva-voce* examination of half an hour would necessitate a student paying more attention to this subject, thereby enabling him to discuss with intelligence an important branch of our work. His inability to do so may mean the loss of hundreds of pounds in fees later on, as frequently the decorations and furniture cost as much as the house, besides often depriving him of the consequent structural work.

It may be contended that furniture, and even decoration, is beneath the dignity of an architect, but it often happens that a beautiful exterior may be marred by lack of taste and want of knowledge in the internal treatment. The Brothers Adam evidently felt this and did not stop at the structure, but designed everything, even to the carpet.

Surely the remedy for the encroachment of the furnishing houses on the architect's domain lies in the hands of the Institute.—Yours faithfully,

G. Reginald Farrow [*A.*].

Books Received.

The Architecture of the Renaissance in France: a History of the Evolution of the Arts of Building, Decoration, and Garden Design under Classical Influence from 1495 to 1830. By W. H. Ward, M.A. 2 vols. 8o. Lond. 1911. Price 30*s.* net. B. T. Batsford, 94 High Holborn, W.C.

A History of French Architecture from the Reign of Charles VIII. till the Death of Mazarin. By Reginald Blomfield, A.R.A., M.A., F.S.A. 2 vols. la. 8o. Lond. 1911. Price 50*s.* net. G. Bell & Sons. Ltd.

Architectural Hygiene; or Sanitary Science as Applied to Buildings. By Banister F. Fletcher and H. Phillips Fletcher. Fourth Edition. Revised. 8o. Lond. 1911. Price 5*s.* net. Whittaker & Co., 2 White Hart Street, E.C.

An Analysis of St. Mary, Cholsey, in the County of Berkshire. By F. J. Cole, D.Sc. Oxon. With 23 plates. 8o. Oxford. 1911. Price 5*s.* net. Henry Frowde, Amen Corner.

Stresses and Thrusts: a Text-book for Students. By G. A. T. Middleton [*A.*]. Fourth Edition, Revised and Enlarged, Lond. 1911. B. T. Batsford, 94 High Holborn.

London Houses from 1660 to 1820. By A. E. Richardson and C. Lovett Gill. 8o. Lond. Price 15*s.* net. B. T. Batsford, 94 High Holborn.

Practical Mathematics and Geometry: a text-book for advanced students in technical and trade schools, evening classes, and for engineers, draughtsmen, architects, surveyors, &c. By Edward L. Bates and Frederick Charlesworth. Part III. Advanced Course. Sm. 8o. Lond. 1911. Price 3*s.* net. B. T. Batsford, 94 High Holborn.

9 Conduit Street, London, W., 21*st Oct.* 1911.

CHRONICLE.

The Herbert Baker Scholarship.

The Baker Scholarship, which owes its existence to the munificence of Mr. Herbert Baker [*F.*] of Johannesburg, has been awarded to Mr. G. E. Gordon Leith [*A.*] of Johannesburg, who, after a short visit to England, has now proceeded to Rome to prosecute his studies in accordance with the conditions laid down by the donor. The scholarship, which is tenable for one year, is of the value of £250, and it is proposed to be awarded every alternate year. It is open to any British subject under the age of thirty-three who has spent seven years in the study and practice of architecture and has passed at least two-thirds of his architectural career in South Africa. The holder of the scholarship is required to spend eight or nine months in Rome as his principal headquarters, acting under the direction of the British School at Rome, this period to include a visit to Athens with the British School there as headquarters. The scholar has to apply himself, not to archæology, but to the study of architecture and the allied arts, and to devote his studies to the principles on which the noblest architecture of all periods is based, rather than to the superficial details which are often the mere accidents of style. He will be required to make measured drawings of the whole or part of an old building or group of buildings selected or approved by the trustees and directors. These, and any other of his drawings which the trustees may select, will be retained for the purpose of forming a record of architectural work at the Central School of Architectural Education in South Africa, wheresoever it may be eventually located. For the rest of the year the student is required to make London his headquarters and continue his work in museums and libraries, and to study the architecture of Northern as compared with that of Southern Europe. Throughout his studies special attention has to be given to methods of town planning that are suitable to South Africa. At the completion of his year the student must exhibit (under the direction of the R.I.B.A.) the result of his studies, and submit a thesis on the Relation of Architecture and Town Planning to Conditions of

Climate and Practical Requirements. He will then be required, within a limit of time fixed by the Trustees, to hold one or more similar exhibitions in South Africa.

For the guidance of future candidates the Trustees state in their report that while the work of the successful candidate shows great elaboration of design and wealth of variety, these are not the qualities by which they are guided in coming to their decision, and that less elaborate work, involving a smaller demand on the time of students, will equally fulfil the conditions of the scholarship. Architectural instincts and capacity are the qualities by which the success of a candidate is judged, and not elaboration or quantity of work sent in.

The Trustees in South Africa are General the Hon. J. C. Smuts and Messrs. Lionel Phillips, Patrick Duncan and Walter S. Webber. In Europe the scholar will be under the direction of the Royal Institute working in conjunction with the British Schools at Rome and Athens.

A joint committee, consisting of the Chairman, Vice-Chairmen, and Hon. Secretaries of the R.I.B.A. Board of Architectural Education has been appointed to supervise the work of the holder of the Scholarship, and to instruct the Secretary of the Royal Institute as to the payment of the Scholarship instalments. Mr. Baker-Penoyre, Secretary of the British School at Rome, has been invited to join the Committee.

Board of Education: Departmental Committee on School Grounds.

The President of the Board of Education has appointed a Departmental Committee to inquire and report:

(*a*) Whether it would be consistent with due regard to educational and hygienic considerations that the minimum standard of playground accommodation for new public elementary schools prescribed in the Building Regulations of the Board of Education—viz., 30 feet per head of accommodation—should be modified or adjusted according to the size, design, or situation of schools, the proximity of recreation grounds or open spaces, the density of population, the cost of land, or otherwise.

(*b*) How far it is possible or desirable to define more precisely the standard of playground accommodation which the Board of Education will require under the Code of Regulations for Public Elementary Schools in the case of existing schools or to regulate the practice of the Board of Education in dealing with cases in which the playground accommodation is considered to be insufficient.

The Committee will consist of Mr. L. A. Selby-Bigge, C.B., Principal Assistant Secretary of the Elementary Education Branch of the Board of Education (*Chairman*); Sir George Newman, Chief Medical Officer of the Board of Education; Mr. J. C. Iles, H.M.I., Divisional Inspector for the North-Western Division; Mr. F. H. B. Dale, H.M.I., Divisional Inspector for the Metropolitan Division; Mr. A. B. McLachlan, of the Local Government Board, with Mr. L. J. Morison as Secretary.

University College Course in Heating and Ventilation.

A movement is on foot, started by the Institution of Heating and Ventilating Engineers, having for its object the promotion of the scientific study of the higher branches of heating and ventilation in some of the centres for advanced technical education in Great Britain. The want of instruction in these branches of engineering has long been felt in this country, and very little progress has been made in our methods compared with the results achieved in some Continental countries. Germany, for instance, possesses very elaborate and extensive buildings for the study of this subject, from funds provided by the Imperial Government, and some of the greatest living authorities are there engaged solely in investigating matters connected with heating and ventilating. With the help of a grant from the London County Council a Lectureship has now been instituted at University College, London. A laboratory has been equipped, and it is hoped that the work will receive the wholehearted support of those interested. Mr. A. H. Barker, B.A., B.Sc. Lond., Whitworth Scholar, has been appointed the first Lecturer, and the first of a series of six public lectures entitled "The Real Nature of the Problems in Heating and Ventilation awaiting Solution by the Engineer" was delivered in the large lecture theatre of University College, Gower Street, on Tuesday evening last, when Sir Aston Webb, C.B., R.A., presided.

Archæological Survey of India.

The abolition of the Central Department of Archæology in India, which the Government of India is said to have in contemplation, is viewed with concern by all who are interested in the beautiful series of Indian monuments of which the Government is guardian and trustee. Eloquent protests against so retrograde a step have appeared in the press, notably from the past Viceroys Lords Curzon and Minto, and from the India Society and the Society for the Protection of Ancient Buildings. Lord Minto, speaking from his own experience, declares that a reversion to the Provincial system would result either in neglect of India's ancient monuments or in ill-considered and ruinous attempts at their so-called restoration. Lord Curzon, to whose initiation we owe the magnificent work which is being done in India for the conservation of its archæological treasures, in a letter to *The Times*, compares the condition of things under the old Provincial system with that now prevailing under the Central Department. He says:—

When I went to India in 1899 I found archæology resting upon the frail basis of the Provincial system,

i.e., each Province was left to deal with its own monuments as it pleased, to safeguard, repair, neglect, injure, or destroy, according to the artistic knowledge or lack thereof of its official head and his subordinates, or to the state of its funds. . . . Under this happy-go-lucky system atrocities had in many cases been committed which cannot be recalled without a shudder.

Well known are the cases of the exquisite little Pearl Mosque in the Fort at Lahore, which had been converted into a Government Treasury, the Audience Hall in the same Palace, which was occupied as a barrack and filled with beds, and the Sleeping Hall of Shah Jehan, which conversely had been fitted with pews and transformed into a church; the glorious little Mosque of Sidi Sayid at Ahmedabad, with its marvellous windows of pierced sandstone, which was stacked with chests, and used as the office of the local revenue officer; the Pavilion of Selimgarh at Agra, which had become a soldiers' canteen; the white marble Pavilion of Shah Jehan on the lake-terrace at Ajmer, which had been whitewashed and converted into the Commissioner's dining-room; the Mosque of Dai Anga at Lahore, utilised as the office of a railway traffic superintendent; the two Mosques at Bijapur, one a dak bungalow, the other a British post-office; the Mosque at Vellore, tenanted by a police-instructor; the gilded Palace at Mandalay, employed partly as a club-house, partly as a church. . . . Scarcely a thought was turned to conservation; and beautiful buildings were fast crumbling into irretrievable ruin. Where they were preserved for other than utilitarian purposes, they ministered to the amusements of the European population. Dances took place in the open air on the platform of the Taj; and the British soldier solaced his leisure moments by hacking out with the point of his bayonet the precious stones from the inlaid tombs of the Emperor and his lamented Queen. . . .

In 1901 the Secretary of State accepted the proposals which we had submitted to him in 1900. We did not seek to abolish the responsibility of the Local Governments for the execution of the local work of conservation and repair, because they were the legitimate and inevitable agents through whom this must be done. But we sought to encourage and assist them in the proper discharge of this duty by grants in aid, amounting to one lakh (6,666*l.*) a year, and by the appointment of a highly trained and competent archæologist to exercise a general supervision over the archæological work of the entire country, to keep in touch with the Provincial Governments, to give advice to their officers, and to secure the prosecution of a sound and consistent policy. We were most fortunate in procuring the services of Mr. J. H. Marshall, who had served a valuable apprenticeship in Greece and Crete, and who brought to the discharge of his duties a scholarship and enthusiasm which have re-animated the entire sphere of Indian archæology and a tact which has kept his relations with the Local Governments free from the smallest symptom of friction. This is the post which the Government of India now desires to abolish, and this is the officer whom it is proposed, after nine years' service, compulsorily to retire.

Describing the changes brought about by Mr. Marshall, Lord Curzon says:—

During the past ten years there is not a group of famous buildings or remains in India—I may almost say not a single structure—which has not been examined and taken in hand. Visitors to the Delhi Durbar this winter who have not been in India for a decade will hardly recognise the surroundings of the Taj at Agra, laid out, as they now are, in verdant parks and gardens, the approaches well kept, the colonnades restored, the shimmering fabric of the Taj itself flawless as when it left the masons' hands. So it is everywhere in the Agra group of monuments, of which I say confidently that there is not in the world a collection of buildings so beautiful, in such a perfect state of preservation, or tended with such pious care. The King is to hold a party in the Delhi Fort, in the recovered gardens of the Moghul Emperors. He will see watercourses, and plashing fountains, and marble pavilions, where ten years ago there was a desolate waste, fringed round with monstrous barracks. So it has been in all parts of India. Orderliness has replaced squalor, reverence has succeeded contempt, anxious labour has arrested galloping decay.

During the same period the annual reports of Mr. Marshall, with their wealth of photographs and plates, the monographs on special subjects, and the scientific record of work accomplished, have, as I know, been regarded with admiration by the scholars of Europe and America.* Nothing like them is produced in any other country. Nor has the task been confined to conservation or delineation alone. Exploration has been pursued with vigour, but also with scholarly circumspection. Wonderful discoveries have been made; two new pillars of Asoka have been brought to light, the great mound that contained the relics of Buddha at Peshawar has been identified and its contents revealed to the world.

In case it should be argued that so excellent has been the work of Mr. Marshall and his staff that India can now afford to dispense with their services, and that the Local Governments, redeemed from their former apathy, can safely be left to act alone, I answer that with every allowance for the changed spirit that prevails, and for the zeal of individual Governors, this cannot be attempted without certain disaster. In the first place, not one quarter of the work is yet done. Secondly, Local Governments have not got the men upon their establishment (it is not their fault) even if they have the zeal and the funds. The archæologist is not born, but made; and he can only be made in India, not by the experience of building hospitals or bridges, or even by studying Sanscrit and deciphering inscriptions, but by careful education in the principles of conservation and research. Conservation is a science by itself, not to be acquired except by long study, or to be practised without vigilant expert control. One quinquennium of neglect in a single Province may bring about irreparable calamity; a single experiment by an ignorant though well-meaning local engineer may destroy the glory of centuries. Undisciplined activity may be even more dangerous than complete inaction. When I visited the famous rock-fortress of Chitorgarh I found the beautiful Tower of Fame already partially dismantled and its upper tiers lying in fragments on the ground. Under the advice of the local engineer the entire structure was about to be taken down, in order that, after being duly scraped and modernised and renovated, it might be set up again!

Mr. E. B. Havell, late Principal of the Government School of Art, Calcutta, writing from the standpoint of an artist who has made a special study of Indian art, says:—

Not the least valuable work which the Department has done has been the aid and encouragement it has given to the living art of India by the employment of

* The Institute Library is regularly favoured by the Indian Government with these Reports as they are published That for 1907–8 just received is a beautifully illustrated folio of over 300 pages, describing among other matters the work done for the rescue and repair of the palaces and tombs of the Mughal Emperors.

numbers of the most highly skilled hereditary craftsmen in the restoration of the great monuments which their ancestors built. In Europe artists have good reason to regard with mistrust most schemes of archæological restoration; but, just because India has a living traditional art, such schemes can in most cases be easily and safely carried out in India, provided that the Indian craftsmen employed are judiciously directed. I can testify from personal observation to the excellence of the restoration work done by the Archæological Department of India since 1901. The money spent on archæological restoration has been better spent than most of that which provides for the official system of art education in India. It has given Indian craftsmen not only opportunities of artistic work which are denied them by the Public Works Department, but also the best of artistic training.

ALLIED SOCIETIES.

Manchester Society of Architects.

The first of the meetings of this Society's Winter Programme was held on 11th October, when Mr. Edgar Wood [*F.*] delivered the Presidential Address. In the room was exhibited a large collection of drawings and photographs of past and present architectural works which the President had got together for the occasion.

Mr. Wood said that he proposed to depart from the custom which had been followed on many previous occasions of reviewing the year's work and architectural achievement. A paragraph of James Russell Lowell suggested a subject for discussion and thought: "There is only one thing better than Tradition, and that is the Original and Eternal Life out of which all tradition takes its rise." We all acknowledge, continued Mr. Wood, that Tradition is the greatest factor and the greatest book that goes to our making. The difficulty is in its interpretation. The temperament of vigour will seek to express itself upon lines founded upon the artist's own conception of the spirit of the work of his predecessors, strengthened by an intense craving to create for himself. How much originality and of reliance on the past is compatible with freedom of thought?

On tradition alone we cannot advance. If we make the past a crutch and ourselves a cripple we are exponents of intellectual stagnation. Do we show our appreciation of the Greeks more wisely in attempting the mechanical reproduction of their forms, or by endeavouring to comprehend the spirit of full-grown manhood in which they wrought, to kindle ourselves by the emulation of it, and to bring it to bear with all its plastic force on our wholly new conditions of life and thought? External imitation of a by-gone excellence, or even the application of the rules which analytic criticism has formulated from the study of it, produces the artificial, not the artistic. That most subtle of all essences which eludes chemist, anatomist, and microscopist, the Life, is in æsthetics not less shy of the critic. The Italian Renaissance fell short in its architecture because to a living body of social and scientific new birth was bound the corpse of a past art. The great and magnificent development of plan was not accompanied by corresponding achievement in design. The architects were hard at work as students of antiquity, while the sculptors were yearning to create.

Yet the notion of absolute originality was an absurdity. A man cannot escape in thought, any more than in language, from the past. Not less preposterous than raising dead styles is the invention of new ones.

Art must be at once retrospective and progressive, its very progress a reflection returned from the mirrors of the past. Its artists must be endowed with that energy of life which vitalises and becomes a channel of creative power. To the extent which they possess this force are they original, creative, fecund. Not in skill, device, artifice, or mechanism is originative impulse to be found, but in Life. "They are torrents of Will." They work in ways dissimilar, but the quality they possess is their measureless vitality, which the academic is unable to stifle or the archæologist to smother.

From abstract thoughts and reasonings our minds can travel to the things of to-day and inquire how they influence our endeavours. In our planning we exercise every mental energy in satisfying practical requirements; we visit the most recent developments in every utilitarian direction; and this vitality has justly yielded its reward. Has there been equal success in the development of the architectural contribution? or has our energy exhausted itself *before* we are architects? Our clients, it may be said, do not encourage these things—but is that sufficient to stifle aspiration? Are not our convictions so true that we are ready to put them aside before the indifference of others?

We must, again, remember that the test of an artist will always be that he has something to say—that he is moved by some faith that he holds. He may be a scholar, or interesting, logical, industrious, but unless he is sincere he can only be a partial success.

Mr. Wood, referring to the collection of works in the room, said that reverence forbade any allusion to those whose works were of the long past, but of the others he could touch upon some as worthy of grateful tribute, and he concluded by an analysis of Westminster Cathedral, some works of Professor Pite, Mr. Henry Wilson, and others whose work was exhibited.

The Cape Institute of Architects.

The designs submitted by candidates for the Herbert Baker Scholarship were publicly exhibited at the City Hall, Cape Town, on the 25th September. The exhibition was opened by the Mayor, Sir Frederick Smith. Mr. Arthur H. Reid, President of the Cape Institute of Architects, in a short address stated that the designs had been obtained from Johannesburg, where they had been judged, in order to give students and others interested the opportunity of seeing the results of Mr. Baker's effort to encourage the thorough equipping of South African architects. He hoped that the movement which had been originated by the Institute, to get some permanent gallery in Cape Town for the exhibition of art and applied art, would lead to some result. He believed such a gallery would be useful financially, æsthetically, and industrially.

The Mayor said the exhibition pretended to no flourish of trumpets, for it was merely a pioneer effort, though of great importance, especially to the architectural profession. For one thing, it would emphasise the spirit of generosity and broad-minded love in which an architect held his profession; and provide an example of how one with sufficient of this world's goods might profitably employ them. If Mr. Baker's example were followed, if would mean permanent advancement to this country. Architects' work lived after them, as a good or a bad monument to their life's work; hence the necessity of giving them a high and noble ideal of their profession.

Telegrams: "Ribazo London." P.O. Telephone: "434 Mayfair."

[*Supplement*]

JOURNAL
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The Annual Dinner, Tuesday, 4th July.

To be held at the Fishmongers' Hall, Adelaide Place, London Bridge, E.C.

Tickets for Members and Licentiates and their guests, 25*s.* each. Ladies' tickets, 21*s.* These charges are inclusive.

In order to facilitate the arrangements for the Dinner, Members and Licentiates are particularly requested to send in their applications for tickets not later than Tuesday 27th inst.

It would be a convenience if the Secretary could be informed of the names of guests when application is made for tickets. All applications, with cheques, should be addressed to the Secretary.

Ninth International Congress of Architects, Rome, 2nd to 10th October, 1911.

Presentation of the Royal Gold Medal and Exhibition of Photographs of Wren's Work, 26th June, at 8.30 p.m.

THE SIXTEENTH GENERAL MEETING (ORDINARY) of the Session 1910-11 will be held Monday, 26th June 1911, when the Chair will be taken at 8.30 p.m., for the following purposes :—

To read the Minutes of the General Meeting (Business) held Monday, 12th June 1911 ; formally to admit Members attending for the first time since their election.

To present the Royal Gold Medal for the promotion of Architecture, conferred by His Majesty the King, to Dr. WILLIAM DÖRPFELD, F.S.A., of the German Archæological Institute, Athens.

To read the following Paper :—

THE INTERLEAVED HEIRLOOM COPY OF THE "PARENTALIA," AND SOME NOTES ON THE WRENS.

By LAWRENCE WEAVER F.S.A. [*Hon. A.*].

At the conclusion of the Paper Mr. Weaver will formally present to the Institute the volume above referred to.

ADDITIONS TO THE LIBRARY AND COLLECTION.

Books and Pamphlets.

Aberdeen Society of Architects
Annual report adopted at the annual general meeting, 1st March, 1910. 8o. [*Aberdeen*] 1910
PRESENTED BY THE SOCIETY.

Adams (Henry)
Examination work in building construction. 4o. *Lond.* 1911
PRESENTED BY THE AUTHOR.

Adelaide
Official illustrated guide to Adelaide and environs. 8o. *Adelaide* 1906
PRESENTED.

Alexandria
SOCIÉTÉ INTERNATIONALE DES INGÉNIEURS ET ARCHITECTES D'ALEXANDRIE.
Statuts. 8o. *Alexandria* 1911
PRESENTED BY THE SOCIETY.

American Institute of Architects
NEW YORK CHAPTER.
Year book, 1911. sm.8o. [*N. York*] 1911
PRESENTED BY THE CHAPTER.

Amsterdam
ARCHITECTURA ET AMICITIA.
Architectura. Vol. 18. fo. *Amsterdam* 1910
PRESENTED BY THE SOCIETY.

Architects' Compendium and Catalogue
Vol. 25, edited by John Edward Sears.
4o. *Lond.* 1911
PRESENTED BY THE COMPENDIUM PUBLISHING COMPANY.

Aston (John)
Sketches of Christ Church, Oxford.
4o. *Lond.* n.d.
PRESENTED BY FRED C. UREN [*Licent.*].

Baldry (A L)
Sir Joshua Reynolds. 8o. *Lond.* n.d.
PRESENTED BY FRED C. UREN [*Licent.*].

Belfast
The city hall of the county borough of Belfast. 4o. *Belfast* 1906
PRESENTED BY THE BOROUGH.

Beltrami (Luca)
I dipinti di Bernardino Luini alla villa Rabia detta "La Pelucca." 8o. *Milan* 1911
PRESENTED BY THE AUTHOR [*H.C.M.*].

Bond (Francis)
Wood carvings in English churches.
i.—Stalls and tabernacle work.
ii.—Bishops' thrones and chancel chairs.
8o. *Lond.* 1910
PRESENTED BY HENRY FROWDE, the Publisher.

Boston Society of Architects
Report of committee on municipal improvements. pam.4o. *Boston* 1907
PRESENTED BY THE SOCIETY.

British School of Archæology in Egypt
Meydum and Memphis (III.), by W. M. Flinders Petrie, Ernest Mackay and Gerald Wainwright. 4o. *Lond.* 1910
PRESENTED BY THE SCHOOL.

Brown (G Baldwin)
The arts and crafts of our Teutonic forefathers. Being the substance of the Rhind lectures for 1909.
8o. *Lond. and Edinburgh* 1910
PRESENTED BY T. N. FOULIS, the Publisher.

Brussels
ACADÉMIE ROYALE DE BELGIQUE.
Annuaire, 1911. 8o. *Brussels* 1911
Bulletin de la Classe des Lettres. Nos. 1-4.
8o. *Brussels* 1911
PRESENTED BY THE ACADEMY.

SOCIÉTÉ CENTRALE D'ARCHITECTURE DE BELGIQUE.
Bulletin mensuel. Nos. 1 and 5.
8o. *Louvain* 1911
PRESENTED BY THE SOCIETY.

SOCIÉTÉ D'ARCHÉOLOGIE DE BRUXELLES.
Annales. Vol. xxiv., pts. 3 and 4.
8o. *Brussels* 1911
Annuaire. Vol. xxii. 8o. *Brussels* 1911
PRESENTED BY THE SOCIETY.

Burnham (Daniel H) and Bennett (Edward H)
Report on a plan for San Francisco. Edited by Edward F. O'Day.
4o. *Boston* 1905
PRESENTED.

Burnham (Daniel H), Carrère (John M) and Brunner (Arnold W)
The group plan of the public buildings of the city of Cleveland, Ohio. Report . . . by Daniel H. Burnham, John M. Carrère, Arnold W. Brunner, Board of Supervision. 2nd. ed., with supplement indicating the progress of the improvements. fo. [*Cleveland*] 1907
PRESENTED.

Cardellach (Félix)
Filosofía de las estructuras. 8o. *Barcelona* 1910
PRESENTED BY THE AUTHOR.

Catalonia
ASOCIACIÓN DE ARQUITECTOS DE CATALUÑA.
Anuario. 8o. *Bajos* 1911
PRESENTED BY THE ASSOCIATION.

Chicago
SPECIAL PARK COMMISSION.
Annual report. Parks, playgrounds, bathing beaches and street planting.
ob.8o. *Chicago* 1911
PRESENTED BY THE COMMISSION.

Dowdall (Harold Cha'oner)
Outline of the law of town planning.
pam.8o. *Liverpool* 1910
PRESENTED BY THE AUTHOR.

Dublin
ROYAL SOCIETY OF ANTIQUARIES OF IRELAND.
Journal, vol. xl., pt. 4. 8o. *Dublin* 1910
PRESENTED BY THE SOCIETY.

Dunn (William)
Diagrams for the solution of T beams in reinforced concrete. 7 sheets.
fo. *Lond.* 1911
PRESENTED BY THE UNIVERSITY OF LONDON PRESS. the Publishers.

Lectures on reinforced concrete delivered at the Institution of Civil Engineers in November, 1910. [With seven sheets of diagrams for the solution of T beams.] 8o. *Lond.* 1911
PRESENTED BY THE UNIVERSITY OF LONDON PRESS, the Publishers.

Edinburgh Architectural Association
Transactions. Vol. vi. 8o. *Edinburgh* 1910
PRESENTED BY THE ASSOCIATION.

Engineering Standards Committee
British standard specification for cold drawn weldless steel tubes for locomotive boilers. No. 53. fo. *Lond.* 1911
Report on British standard thread nuts and bolt heads for use in automobile construction. No. 54. fo. *Lond.* 1911
PRESENTED BY THE COMMITTEE.

Exeter
DEVON AND EXETER ARCHITECTURAL SOCIETY.
Journal of proceedings, 1909–1910. 8o. *Exeter* 1910
PRESENTED BY THE SOCIETY.

Feldegg (Ferdinand von)
Die Platz und Straszenanlage von Salzburg. 4o. *Vienna* [1910]
PRESENTED BY MESSRS. ANTON SCHROLL & Co., the Publishers.

Gibbs (Edward M)
The future extension of the suburbs of Sheffield. . . pam.4o. *Sheffield* 1911
PRESENTED BY THE AUTHOR [*F.*].

Glasgow
SCHOOL OF ARCHITECTURE CLUB.
The Vista. Vol. i., no. 8. 8o. *Glasgow* 1911
PRESENTED BY THE CLUB.

Goodyear (William H)
Recently published measurements of the Pisa cathedral. [Reprinted from the *American Journal of Archæology.*] pam.8o. *n.p.* 1910
PRESENTED BY THE AUTHOR.

Harvey (W), Lethaby (W R) and others
The church of the Nativity at Bethlehem. Edited by R. Weir Schultz. fo. *Lond.* 1910
PRESENTED BY B. T. BATSFORD, the Publisher.

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The Ecclesiologist, vols. xxii.–xxix. 8o. *Lond.* 1871–78

Elmes (James)
Sir Christopher Wren and his times. With illustrative sketches and anecdotes of the most distinguished personages in the seventeenth century. 8o. *Lond.* 1852

English Church Union
Strictures on the recent decisions of the Judicial Committee of the Privy Council. pam.8o. *Lond.* 1871

Essex (W R H)
Illustrations of the architectural ornaments and embellishments, and painted glass of the Temple Church, London. With an account of the recent restoration of the church by Sydney Smirke. 4o. *Lond.* 1845

Exhibition
Industry of all Nations, 1851.
The *Art Journal* illustrated catalogue. fo. *Lond.* n.d.

International, London, 1862.
The record of the exhibition. 4o. *Lond.* n.d.

International Health Exhibition, London, 1884. Guide to the exhibition. 5th. ed. pam.8o. *Lond.* 1884

Guide to the sanitary and unsanitary houses erected under the supervision of a special committee. . . . . pam.8o. *Lond.* 1884

Healthy and unhealthy houses in town and country, by William Eassie, with an appendix on the water supply and disposal of sewage of country houses. 2nd. ed. pam.8o. *Lond.* 1884

Lectures. Foul air in houses, by Professor Corfield. pam.8o. *Lond.* 1884

Metropolitan Asylums Board. Ambulance arrangements for the conveyance of persons suffering from fever and smallpox to the hospitals of the board. pam.8o. *Lond.* 1884

Official catalogue. pam.8o. *Lond.* 1884

On ventilation, warming, and lighting for domestic use, by Douglas Galton. 2nd. ed. pam.8o. *Lond.* 1884

Plumbers' congress. pam.8o. *Lond.* 1884

F (I V)
A brief memoir of Henry Clark Barlow, M.D. pam.8o. [*Lond.*] 1871

Fairbairn (William)
An account of the construction of the Britannia and Conway tubular bridges. Text 8o., Plates fo. *Lond.* 1849

On the application of cast and wrought iron to building purposes. 8o. *Lond.* 1854

Ferrey (Edmund B)
South Winfield Manor. Illustrated by plans, elevations, sections, and details, with perspective views and a descriptive account. fo. *Lond.* 1870

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Observations on the construction of healthy dwellings, namely houses, hospitals, barracks, asylums, &c. 8o. *Oxford* 1880

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The duties of vestrymen, members of district and metropolitan Boards of Works, and officers under the Metropolis Local Management Act, and the Metropolitan Building Act, 1855. 8o. *Lond.* 1856

Gwilt (Joseph)
An encyclopædia of architecture, historical, theoretical, and practical. 8o. *Lŏnd.* 1842

Haden (Seymour)
About etching. Part 1.—Notes on a collection of etchings by the great masters lent by [Seymour Haden] to the Fine Art Society's galleries to illustrate the subject of etching. Part 2.—An annotated catalogue of the etchings exhibited. pam.8o. *Lond.* 1878–79

Hellyer (S Stevens)
The plumber and sanitary houses. 8o. *Lond.* 1877

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The English cathedral of the nineteenth century. 8o. *Lond.* 1861

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A treatise on the building and ornamental stones of Great Britain and foreign countries, arranged according to their geological distribution and mineral character. 8o. *Lond.* 1872

Incorporated Society for Promoting the Enlargement, Building, &c., of Churches and Chapels.
Requirements and suggestions. pam.8o. [*Lond.* 1891]

Jackson (Thomas Graham)
Dalmatia, the Quarnero and Istria, with Cettigne in Montenegro, and the island of Grado. 3 vols. 8o. *Oxford* 1887

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Reliques of ancient English architecture. fo. [*Lond.* 1857]

Outline views of Beverley Minster, interior and exterior. fo. *Lond.* [1845]

Johnson (John) and others
Illustrations of the new palace of Westminster. From drawings by J. Johnson, G. S. Clarke and J. Thomas. A history of the palace of Westminster, by Henry T. Ryde. First series. fo. *Lond.* 1849

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Traité pratique du chauffage, de la ventilation et de la distribution des eaux dans les habitations particulières. 8o. *Paris* 1869

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The grammar of ornament. Illustrated by examples from various styles of ornament. fo. *Lond.* 1856

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Journal
Architect, The. The architect. A journal of art, civil engineering and building. [A collection of illustrations taken from *The Architect* and *The Building News.*] 8 vols. fo. *Lond.* 1877–80

—— [A collection of plates taken from *The Architect, The Builder,* and *The Building News.*] 6 vols. fo. *Lond.* 1874–79

Architects' Law Reports. The architects' law reports (illustrated): A series of revised reports of cases decided in the superior courts, of importance to architects, . . . Compiled by Arthur Crow. Legal editor, A. F. Jenkins. Vols. 1–3. 4o. *Lond.* 1904–07

Builder, The. The builder, an illustrated weekly magazine, for the drawing-room, the studio, the office, the workshop and the cottage. Vols. i.–xiv. fo. *Lond.* 1843–56

—— [A collection of plates taken from *The Builder.*] 8 vols. fo. *Lond.* 1857–70

—— [A collection of plates taken from *The Builder* and *The Building News.*] 26 vols. fo. *Lond.* 1865, 1876–77, 1879–1897, 1899–1900, 1902

—— [A collection of plates illustrating Abbey buildings taken from *The Builder* and *The Building News.*] fo. *Lond.* 1888–1902

—— [A collection of plates taken from *The Builder* and *The Building News.*] 19 vols. la.fo. *Lond.* 1881, 1883–1902

Building News. The building news and architectural review: . . Vol. vii. fo. *Lond.* 1861

—— [A collection of illustrations taken from *The Building News.*] fo. *Lond.* 1857–60

Civil Engineer and Architects' Journal. The civil engineer and architects' journal, scientific and railway gazette. Vols. vii.–xiii. 4o. *Lond.* 1844–50
—— incorporated with *The Architect.* Vols. xiv.–xix. 4o. *Lond.* 1851–56

—— [Miscellaneous parts (1843–47) bound together.] 4o. *Lond.* 1843–47

Examples of the architecture of the Victorian age, and monthly review of the world's architectural progress. Vol. i. fo. *Lond.* 1862

Illustrated Magazine of Art. Vols. i. and ii. fo. *Lond.* 1853, 1854

Revue générale de l'architecture et des travaux publics. Vol. xxvi. fo. *Paris* 1868

Workshop, The. The workshop, a monthly journal devoted to the progress of the useful arts. Edited by W. Baumer, I. Schnorr, and others. Vol. i. fo. *Lond.* 1886

Kerr (Robert)
A small country house. 8o. *Lond.* 1873

The gentleman's house; or, how to plan English residences, from the parsonage to the palace. 8o. *Lond.* 1864

Knight's
Guide to the arrangement and construction of workhouse buildings, with notes and diagrams of the requirements and recommendations of the Local Government Board in regard to the erection of poor law institutions. 8o. *Lond.* 1889

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Letarouilly (Paul Marie)
Edifices de Rome moderne, . . . [Plates extracted from *Edifices de Rome Moderne*, principally illustrating the Farnese Palace.] Vol. ii., plates 115–144. fo. [*Paris* 1850]

Lonsdale (H W) and Tarver (E J)
Illustrations of mediæval costume. 4o. *Lond.* 1874

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History of art. Translated by F. E. Bunnett. 2 vols. la.8o. *Lond.* 1868

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The law of parochial assessments, explained in a practical commentary on the Statute 6 and 7 Will. 4, cap. 96. 8o. *Lond.* 1858

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A guide to the churches of London and its suburbs for 1867. pam.8o. *Lond.* 1867

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Metropolis local management acts amendment, 25° and 26° Victoriæ, cap. 102. 8o. *Lond.* 1862

Proceedings under the Metropolitan Buildings Act . . . digested and arranged by Edward Lawes. 8o. *Lond.* 1846

The act for the better local management of the metropolis, the Metropolis Local Management Act Amendment, and the act to alter and amend the Metropolis Local Management Act, 1855, with an analysis. . . . . by Edward R. Cook. 2nd. ed. 8o. *Lond.* 1858

Metropolitan Board of Works
Report, 1867–8. 8o. *Lond.* 1868

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Newington Church
A notice of the church and rectory. pam.8o. [*Lond.*] n.d.

Nicholson (Peter)
An architectural dictionary, ... Vol. i. Aba—eye ; vol. ii. Fab—nui. 4o. *Lond.* 1819

Okely (W Sebastian)
Development of Christian architecture in Italy. 8o. *Lond.* 1860

Paley (F A)
A manual of Gothic moldings : a practical treatise on their formations, gradual development, combinations, and varieties. 2nd. ed. 8o. *Lond.* 1847

Paris
Maisons les plus remarquables de Paris construites pendant les trois dernières années, vol. i. fo. *Paris* 1870, 1877

Universal International Exhibition, 1878.
Official catalogue of the British section, parts 1 and 2. 8o. *Lond.* 1878

Pelet (Auguste)
Description de l'amphithéâtre de Nîmes. 3rd. ed. 8o. *Nimes* 1866

Perry (John Tavenor)
An account of the priory of St. Martin, Dover. pam.8o. *Oxford and Lond.* 1871

Perry (John Tavenor) and Henman (Charles junr.)
Illustrations of the mediæval antiquities in the county of Durham. fo. *Oxford and Lond.* 1877

Phillips (James J)
St. Mary's of Grey Abbey, county Down, Ireland, as existing in the year A.D. 1874. sm.fo. *Belfast*, 1874

Pugin (Augustus)
Specimens of Gothic architecture ; selected from various ancient edifices in England. 2 vols. 3rd. ed. 4o. 1825–26

Specimens of the architecture of Normandy, from the XIth to the XVIth century. Engraved by John and Henry le Keux. With historical and descriptive notices by John Britton. New ed., edited by Richard Phené Spiers. fo. *Lond.* 1874

Examples of Gothic architecture. Part 1. Third series. The Vicars' Close, Wells, Somersetshire. Illustrated, with a historical and descriptive account by T. L. Walker. 4o. *Lond.* 1836

Pugin (A Welby)
Fifteenth and sixteenth century ornaments. In four parts—
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iv.—Details of ancient timber roofs.
[Reprint.] 4o. *Edinburgh* 1904

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Illustrations of Tattershall Castle, Lincolnshire. fo. *Lond.* 1872

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The inns of old Southwark and their associations. 8o. *Lond.* 1888

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The industrial arts in Spain. 8o. *Lond.* 1879

Richardson (Charles James)
Studies from old English mansions, their furniture, gold and silver plate, &c. First series. fo. *Lond.* 1841

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An attempt to discriminate the styles of architecture in England, from the Conquest to the Reformation : with a sketch of the Grecian and Roman orders ; notices of numerous British edifices ; and some remarks on the architecture of a part of France. 4th. ed. 8o. *Lond.* 1835
———— 6th. ed. 8o. *Oxford and Lond.* 1862

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Architectural foliage, adapted from nature. . . 2nd. ed. fo. *Derby* n.d.

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An attempt to ascertain the age of the church of Mickleham, in Surrey, with remarks on the architecture of that building. fo. *Lond.* 1824

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Notes . . . on Samuel Prout and William Hunt, illustrated by a loan collection of drawings exhibited at the Fine Art Society's galleries, 1879–80.
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The stones of Venice. 3 vols. [Vol. 2 is the 2nd. ed.] 8o. *Lond.* 1851–57

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Architectural parallels ; or the progress of ecclesiastical architecture in England through the twelfth and thirteenth centuries, ... With supplement containing the full-sized mouldings . . . . la.fo. *Lond.* 1848

Sharpe (Edmund) and Johnson (J) and Kersey (A. H.)
The churches of the Nene Valley, Northamptonshire. fo. *Lond.* 1880

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Metropolitan improvements ; or London in the nineteenth century : . . . With historical, topographical, and critical illustrations, by James Elmes. 8o. *Lond.* 1827

Smith (William)
Dictionary of Greek and Roman antiquities. 2nd. ed. *Lond.* 1866

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fo. *Lond.* 1881

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A treatise on isometrical drawing.
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South Kensington Museum
A guide to the art collections. 8o. *Lond.* 1868

Stevenson (J J)
House architecture. 2 vols. 8o. *Lond.* 1880

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The theory of strains in girders and similar structures. . . . . 2 vols.
2nd. ed. 8o. *Lond.* 1869

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Brick and marble in the middle ages : notes on tours in the north of Italy.
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Some account of the Gothic architecture in Spain. 8o. *Lond.* 1865
Town churches. [In the *Englishman's Magazine*, Feb. 1865, pp. 118–127.]
8o. *Lond.* 1865

Stuart (James) and Revett (Nicholas)
Les antiquités d'Athènes. . . . Traduit de l'Anglais, par L. F. F. [*i.e.* L. F. Feuillet.] fo. *Paris* 1808–1822

Tarbuck (Edward Lance)
Encyclopædia of practical carpentry and joinery. 4o. *Lond.* n.d.

Taylor (G L) and Cresy (Edward)
The architectural antiquities of Rome, 2 vols.
fo. *Lond.* 1821, 1822

Texier (Charles) and Pullan (R Popplewell)
Byzantine architecture illustrated by examples of edifices erected in the east during the earliest ages of Christianity. With historical and archæological descriptions. fo. *Lond.* 1864

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Retreats : A series of designs, consisting of plans and elevations for cottages, villas, and ornamental buildings.
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Timmins (Thos)
Examples of iron roofs. . . . Vol. I.
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Illustrated by drawings made by J. Hewitt. Accompanied by an essay on the present state of architectural study and the revival of the Italian style, by W. H. Leeds. fo. *Lond.* 1839

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Dictionnaire raisonné du mobilier français de l'époque carlovingienne à la renaissance. Première partie. Meubles. 8o. *Paris* 1888

Entretiens sur l'architecture. Atlas. ob.fo. *Paris* 1864

Intervention de l'état dans l'enseignement des beaux-arts. 8o. *Paris* 1864

Walter (Frederick S)
A general architectural description of the cathedral church, formerly the abbey church, of St. Peter at Gloucester. fo. *Lond.* 1856

Walmisley (Arthur T)
Iron roofs. Examples of design. Description, illustrated with working drawings. 2nd. ed. fo. *Lond.* 1888

Waring (John Burley)
Illustrations of architecture and ornament. fo. *Lond.* [1850]

Weale (W H James)
Restauration des monuments publics en Belgique. 2nd. ed. 8o. *Bruges and Brussels* 1862

Westropp (Hodder M)
Handbook of archæology: Egyptian, Greek, Etruscan, Roman. 8o. *Lond.* 1867

Wilkins (William)
The civil architecture of Vitruvius. Comprising those books of the author which relate to the public and private edifices of the ancients . . . with an introduction, containing an historical view of the rise and progress of architecture among the Greeks. fo. *Lond.* 1812

Woolrych (Edmund Humphrey)
The metropolis local management acts, . . . 2nd. ed. 8o. *Lond.* 1880

Wright (Thomas)
A history of domestic manners and sentiments in England during the middle ages. 8o. *Lond.* 1862

Wyatt (M Digby)
An architect's note-book in Spain, principally illustrating the domestic architecture of that country. 8o. *Lond.* 1872

Fine Art. A sketch of its history, theory, practice, and application to industry, being a course of lectures delivered at Cambridge in 1870. 8o. *Lond. and N.York* 1870

Ysendyck (J J van)
Documents classés de l'art dans les Pays-Bas du X.ième au XVIII.ième siècle, recueillés et reproduits par J. J. van Ysendyck. . . . [4 parts.] fo. *Antwerp* 1880–83

Maps, Drawings, Photographs, &c.

Bartholomew (John)
The imperial map of England and Wales according to the Ordnance Survey. . . On the scale of 4 miles to an inch. fo. *Lond. and Edinburgh* n.d.

Horwood (R)
Plan of the cities of London and Westminster, the borough of Southwark, and parts adjoining, showing every house. fo. *Lond.* 1793–99
[Containing two copies each of sheets A1 and B1.]

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Photographs of the cathedral, exterior and interior. 12 sheets ($7\frac{1}{2} \times 5\frac{1}{2}$). *P.* n.d.

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[*Supplement*]

JOURNAL
OF
THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

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THE NINTH INTERNATIONAL CONGRESS OF ARCHITECTS. ROME, OCTOBER 2–10, 1911.

[JOURNAL, 17th June, p. 560.]

Arrangements in connection with the above are being made by the Royal Institute for a party to travel to Rome at special inclusive and reduced rates. Full particulars will be published in the JOURNAL as soon as the arrangements are completed.

Applicants for Licentiateship.

In accordance with the terms of By-law 8, the names and addresses of the following Applicants for Licentiateship, with the names of their proposers, are herewith published FOR THE INFORMATION OF FELLOWS AND ASSOCIATES. Notice of any objection or other communication respecting them must be sent to *The Secretary R.I.B.A.* for submission to the Council prior to Monday, 4th September. If, after due investigation of their claims and of any objection thereto, the Council approve them, and find them to be eligible and qualified according to the Charter and By-laws, they will be admitted to candidature in accordance with the provisions of By-law 12.

AINLEY: Cyril Eyres; 8 Exchange Street, Manchester; and St. James's Rectory, Moss Side, Manchester. — *Proposed by* The Manchester Society of Architects.

ARABIAN: John; War Office (D.B.C. Branch), 80 Pall Mall, S.W.; and 20 Curzon Road, Muswell Hill. — *Proposed by* Edward Boehmer [*F.*], Edwin J. Sadgrove [*F.*], Harry B. Measures [*F.*].

ARCHIBALD: Richard James; 27 Albert Road, Middlesbrough; and 25A Albert Terrace, Middlesbrough. — *Proposed by* J. A. E. Lofthouse [*A.*], T. A. Lofthouse [*A.*], C. S. Errington [*A.*].

BELL: Charles William; 17 Norfolk Street, Sunderland; and Ashleigh Villas, East Boldon, S.O. — *Proposed by* The Northern Architectural Association.

BELLAMY: Noel Franklin; Bodmin Road, St. Austell; and Princess Chambers, Plymouth. — No Proposers.

BRIDGES: Walter Herbert; 21 Lumley Road, Skegness; and Shellthorpe, St. Andrew's Drive, Skegness. — *Proposed by* Thomas T. Paterson [*F.*], A. H. Lamont [*A.*], Edward J. Bridges (Major) [*A.*].

BROWN: John; 21 King Street, Stranraer, N.B. — No Proposers.

COOPER: Bertie; Borough Surveyor's Office, Town Hall, Paddington; and 16 Courtenay Gardens, Upminster, Essex. — *Proposed by* Horace Lambert [*A.*], W. Gillbee Scott [*F.*], F. W. Hamilton [*A.*].

COYLE: Alfred Herbert; Baroda, India. — *Proposed by* Temple Moore [*F.*].

DAVIES: George Henry; Municipal Buildings, Pontypridd; and Glen Frome, Merthyr Road, Pontypridd. — *Proposed by* Harry Beswick [*F.*], David Morgan [*F.*], Cholton James [*F.*].

DEW: William Allan; Market Place, Hyde, Cheshire; and Beechwood, 18 Parsonage Street, Hyde. — *Proposed by* J. C. Ainsworth [*A.*], Norman Culley [*A.*], George H. Willoughby [*F.*].

DIACK: Alexander Ellis; Harbour Engineer's Office, Aberdeen; and 475 Great Western Road, Aberdeen. — *Proposed* by J. Ross McMillan [*F.*], A. H. L. Mackinnon [*A.*], William E. Gauld [*A.*].

DYER : Cyril Hamilton; Fichardt Chambers, Bloemfontein; and 3 Waverley Road, Bloemfontein, O.F.S.	No Proposers.
GAMBLE : James Gardner; City Hall, Belfast; and 42 Hopefield Avenue, Belfast.	*Proposed by* W. J. Fennell [*F.*], J. St. J. Phillips [*A.*], A. W. Stelfox [*A.*].
GRAZEBROOK : Tom; 82 High Street, Stourbridge; and 23 Wolverhampton Street, Dudley.	No Proposers.
GREENHOW : Charles Ingleby; 4 New Bridge Street, Newcastle; and 5 Eslington Terrace, Newcastle.	*Proposed by* The Northern Architectural Association.
GRIEG : Charles Henry; 6 York Place, Edinburgh; and "Roselea," Park Road, Eskbank, Midlothian.	*Proposed by* Thos. T. Paterson [*F.*], J. A. Williamson [*A.*].
HALL : Watson; Church Street, Oudtshoorn, C.P.; and Queen Street, Oudtshoorn, South Africa.	*Proposed by* Herbert Baker [*F.*], John Parker [*F.*], T. Simpson [*A.*].
HILTON : Ernest William; Mossburn Buildings, Stamford New Road, Altrincham; and "Cloverdale," Priory Road, Bowdon.	No Proposers.
HOLDSWORTH : Ledgar; Tetley House, Kirkgate, Wakefield; and "Chellow Dene," Sandal, Wakefield.	*Proposed by* W. Wrigley [*A.*], W. Peel Schofield [*A.*]. Percy Robinson [*F.*].
LANE : George William Curzon; 8 Lendal, York; and Albany Villa, Drury Lane, Altofts, Normanton.	*Proposed by* W. Wrigley [*A.*].
LAWSON : Vincent Alexander; 17 Rowcroft, Stroud; Council Chambers, Cirencester; and St. Ringers, Cirencester.	*Proposed by* Frank W. Wills [*F.*].
LEGG : Frederick George Ivall; 35 New Bridge Street, Ludgate, E.C.; and White House, Purley Downs, Surrey.	*Proposed by* Frederick R. Farrow [*F.*], A. H. Ryan Tenison [*F.*], Ernest Runtz [*F.*].
LEWIS : John Martin; No. 6, Rundalls Road, Madras, India.	*Proposed by* R. F. Chisholm [*F.*].
LOWSON : James; 80 Guild Street, Aberdeen; and 35 Carlton Place, Aberdeen.	*Proposed by* Arthur Clyne [*F.*], A. H. L. Mackinnon [*A.*], William E. Gauld [*A.*].
MACDONALD : Donald; County Buildings, Dingwall; and 48 High Street, Dingwall.	*Proposed by* W. L. Carruthers [*F.*], Alex. Ross [*F.*], Robert Macbeth [*F.*].
McGAHON : John Francis; 9 Exchange Buildings, Dundalk; and St. Mary's Road, Dundalk.	No Proposers.
MAGOON : Herbert Alton; Crédit Foncier Building, Edmonton, Alberta; and 406 Eighth Street, Edmonton, Alberta, Canada.	*Proposed by* W. P. Major [*A.*], W. Stanley Bates [*A.*], James Henderson [*F.*].
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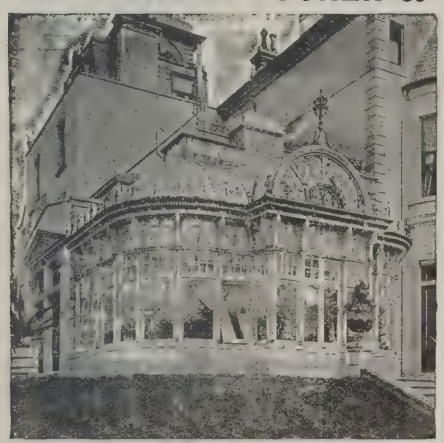

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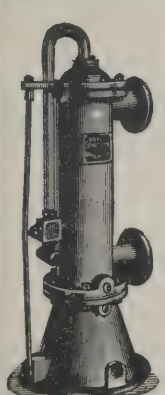

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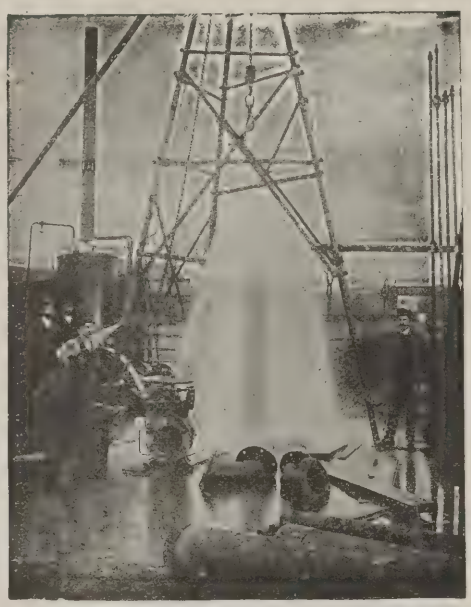

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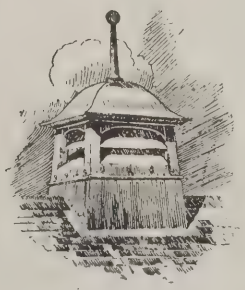

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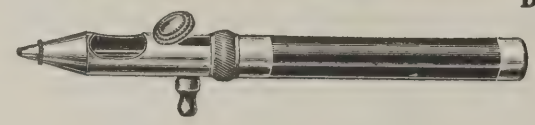

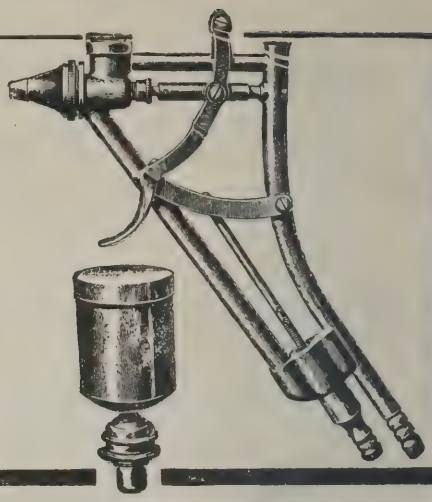

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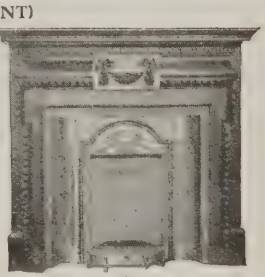

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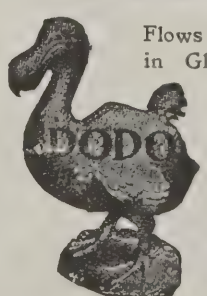

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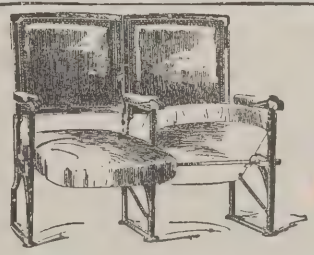

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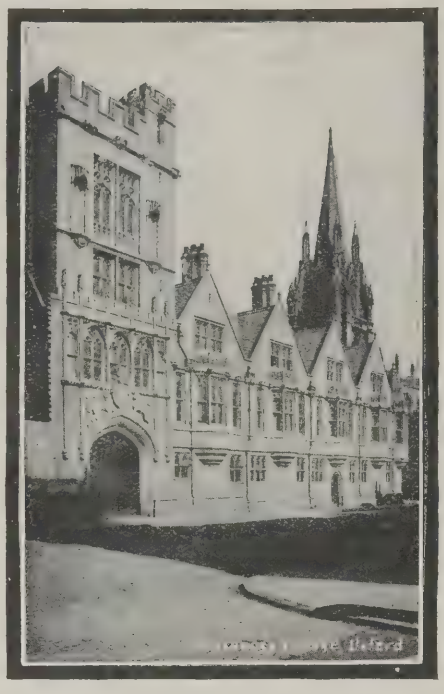

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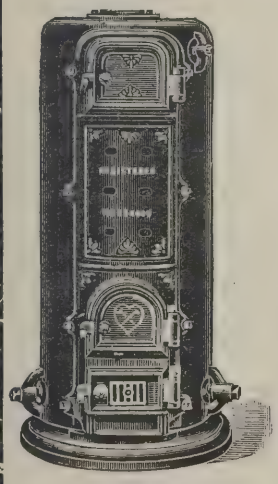

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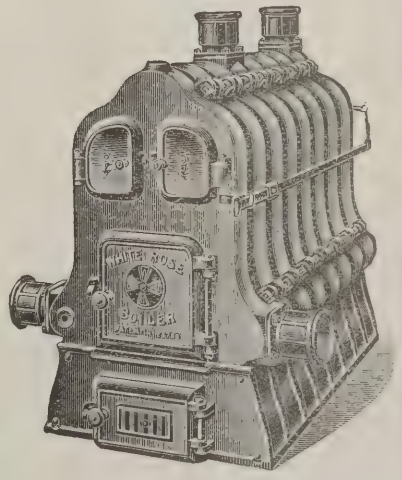

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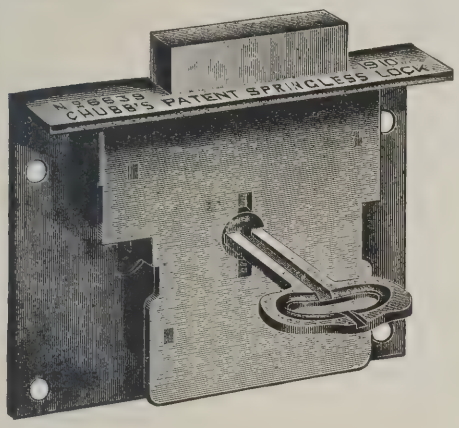

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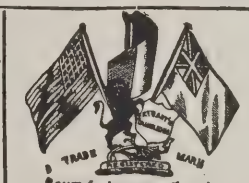

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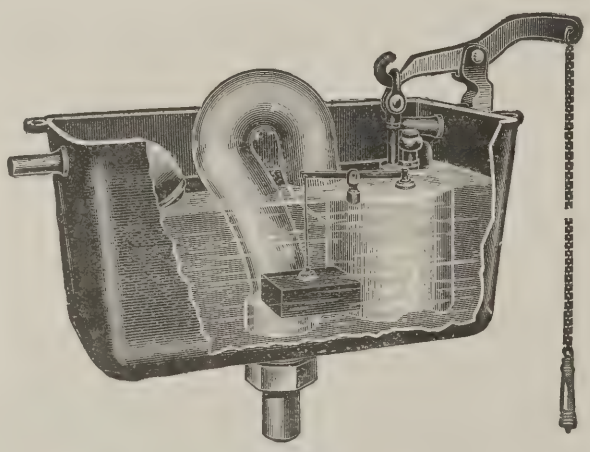

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